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Volume III: Socioeconomics

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Against Florida's historical background, the archeological and historical sites as well as the recreational areas in the seven counties of Hillsborough, Manatee, DeSoto, Charlotte, Polk, Hardee, and Sarasota are discussed in the first chapter of this volume, which is part of the 7-volume areawide impact assessment of the phosphate industry in central Florida. Chapter 2 addresses the study area's demography, economics, and culture. Existing land ownership and use patterns are discussed in Chapter 3, along with land-use planning at the state, local, and regional levels and the administrative and regulatory controls over mining. Chapter 4 deals with future land use in the study area.

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FOREWORD

This is one in a series of reports presenting information developed by, or supplied to, Texas Instruments Incorporated (TI) while conducting an areawide environmental impact assessment of the central Florida phosphate industry for the Environmental Protection Agency (EPA). Because of the diversity and number of groups and individuals interested in this program, the EPA and TI encouraged active public involvement by making working papers available for review and comment as they were developed through environmental analysis, impact assessment, and alternative selection. These working papers then were prepared as a series of reports incorporating the original material modified through the incorporation of comments and additional information developed by TI. Other reports in the series include:

Volume	Title
I	Program and Industry Description
II	Laws and Regulations
IV	Atmosphere
V	Water
VI	Land
VII	Impacts of Alternative Public Policies on Social, Economic, and Natural Environmental Systems

These reports are made available through the National Technical Information Service to serve as background information to the environmental statements (draft and final) and environmental planning needs of federal, state and local agencies as well as other interested parties. The information will be of value to those involved with development and regulation of the phosphate industries, others who plan developments in central Florida, and environmental planners in general who must deal with environmental issues on a regional basis. It is hoped their use will lead to good decisions. It has often been said that decisions are only as good as the information on which they are based. Extending that philosophy, decisions are only as good as the decision makers' understanding of the adequacy of the information in resolving the issues being examined.

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CHAPTER 1

ARCHEOLOGY, HISTORY, RECREATION

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SECTION 1

ARCHEOLOGY

The presence of early man in the study area more than 10,000 years ago is generally accepted and is evidenced by radiocarbon dating of skeletal remains from Warm Mineral Springs in Sarasota County (Griffin 1974). The tropical to semitropical climate, numerous lakes and rivers, easy access to the Gulf Coast, numerous plants, and plentiful fish, shellfish, and wild game provided a favorable setting, although the rather poor drainage and soils of the Florida Gulf Coast restricted intensive agriculture. The conditions did not limit subsistence activities for a small, well-distributed population. The development of a full agricultural economy on more fertile soils produced a population movement inland.

Although Florida has experienced some isolation from the other cultures of eastern North America because of its location on a peninsula, it is considered a part of the Southeast culture area (an area extending from the Atlantic Ocean to just west of the Mississippi River [Wiley 1949]), and its cultures have been influenced by contacts with other Southeastern cultures during various stages of development.

The 791 historical and archeological sites listed on the State of Florida Master Site File (Florida Division of Archives, History and Records Management 1976a) for the 7-county study area probably represent only 5 to 10 percent of all sites in the area (Williams 1976). The Master Site File classes 16th and 17th century European colonial (and later) sites (294, or 37 percent) as "historic", except for those 16th and 17th century sites occupied by Indians, and all sites predating that period (490, or 62 percent) as "prehistoric" (Florida Division of Archives, History, and Records Management 1976b). The general locations of these historical and archeological sites appear on Plate 1 (in map pocket); however, in compliance with a request from the State Division of Archives, they are not labeled to protect them from potential "treasure hunters."

The archeological resources of the study area (Plate 1 in map pocket) represent a variety of "cultural traditions" (used here to mean a distinctive way of life) reflected in various aspects of the culture and extending through some period of time while showing a basic consistent unity (Goggin 1947). Any individual archeological site listed in the Florida Master Site File may represent one or more cultural traditions. Depending on the prehistoric function, the different sites may be grouped as habitation sites or middens (a refuse heap); burial, or circular, mounds; temple, or flat-topped, mounds; and quarry. All of the different site types have yielded various artifacts, and the type of artifact is sometimes used in the Florida Master File as the principal site identifier (e.g., sherd area). Artifacts found at the various sites within the study area include ornaments such as gorgets (made of shell or bone and usually worn suspended around the neck), plummets, glass beads of European origin, aboriginal beads made of stone and shell, amulets, and sherds (pottery fragments). Flint and chert points and implements have been found in former quarry sites or lithic workshops.

Archeological resources in the study area are offered varying degrees of protection by a number of federal, state, and local laws. All study area sites could conceivably be affected by the following laws:

- The Aniquity Act of 1906 (PL 59-209, 34 Stat. 225; 16 USC 431-433) provides federal control of all archeological resources on lands owned or controlled by the United States government.
- The Historic Sites Act of 1935 (PL 74-292, 49 Stat. 666; 16 USC 461-467) states that the preservation of historic and prehistoric sites is national policy and that the National Park Service should be the investigative agent for obtaining accurate facts concerning these sites.
- The Reservoir Salvage Act of 1960 (PL 86-523, 74 Stat. 220; 16 USC 469-469c) provides for a survey of the archeological resources of any area to be affected by federally funded construction of a dam.

- The Archeological and Historic Preservation Act of 1974 (PL 93-291, 88 Stat. 174) provides for preservation and recovery of archeological remains and/or historical sites which are endangered by any federally funded project. Provisions of this act may be applied only after an agency has shown initial compliance with other appropriate federal planning requirements.

- The Historic Preservation Act of 1966 (PL 89-665, 80 Stat. 915; USC 470) provides for an expanded National Register of districts, sites, and objects significant in American history and archeology and funds to help acquire and preserve sites. National Register sites must be given careful consideration when any project utilizing federal funds might adversely affect them. The head of the responsible federal agency must allow the Advisory Council on Historic Preservation established under Title II of this act a reasonable opportunity to comment on the undertaking. Two archeological sites in the study area - Picnic Mound in Hillsborough County and Osprey, a series of burial mounds and middens, in Sarasota County - are on the National Register.

- Executive Order 11593 (May 1971) states that heads of federal agencies shall locate, inventory, and nominate to the National Register all sites, buildings, districts, and objects which are under their jurisdiction and are eligible for listing.

- The Florida Archives and History Act of 1969 (Fla. Stat. Ann., Ch. 267) created the Division of Archives and History and gave it responsibility for all Florida-owned historical sites and properties. In addition, this act establishes the Division's authority to issue permits for excavation or surfaced reconnaissance of historic and archeological sites on state lands.

- The Florida Environmental Land and Water Management Act of 1972 (Fla. Stat. Ann., Ch 380) protects historic and archeologic resources that would be altered by mining operations, which, by definition, are developments of regional impact. The Division of Archives and History (through the Division of State Planning) recommends preservation or salvage of the site to be affected. The same act established the "areas of critical state concern" program to protect historical or archeological sites and objects in designated "areas of critical state concern."

On the local level, county planning agencies or county commissioners have the power to establish zoning ordinances that would affect historical and archeological resources under their jurisdictions. An example of a local body affecting these resources is the Historic Tampa-Hillsborough County Preservation Board established by the Florida legislature in 1975. Although all (nine) members of this board are Hillsborough County residents, the board has the status of a state agency and may recommend action to the State Division of Archives (Englehart 1977).

SECTION 2

HISTORY

The arrival of the Spanish in the 16th and 17th centuries signified the beginning of the historical period. The DeSoto National Memorial near Brandenton (on Terra Ceia Island) marks the 1539 landing site of Hernando DeSoto and his conquistadores. The legacy of the Spanish is visible today in place-names along the Gulf Coast, but such names are almost absent inland. Although the more intensive mission efforts took place on the Atlantic Coast, the Spanish did exert a profound influence on the native inhabitants of the area. This influence included disease, an increased death rate, and stimulation of intertribal warfare (Wiley 1949). Spain ceded Florida to the United States in 1821, ending active Spanish influence.

Timuca Indians, who fled the Spanish, merged with the Seminole Indians and lived in southcentral Florida. Several of the cities of the study area originally were military outposts established prior to and during the Seminole Wars (1835-42); e.g., Tampa was Ft. Brooke, Wauchula was Ft. Hartstuff, and Bartow was Ft. Blount. At the close of the Seminole Wars, the tribe was removed to reservations in Oklahoma, resulting in an increase of white settlement in the interior counties of the study area.

The two principal magnets drawing early settlers were the agricultural potential (for example, a group of farmers from Bowling Green, Kentucky, settled Bowling Green in Hardee County, Florida) and the discovery of phosphate deposits. In addition, climate and soils of the interior were ideal for growing citrus fruits. The discovery of phosphate deposits along the Peace River in 1881 by a U.S. Corps of Engineers survey team marked the beginning of phosphate production from the Bone Valley formation. The phosphate industry generated a population influx, especially after 1908, with discoveries of high-grade land pebble phosphate near Bartow and Mulberry in Polk County (Wauchula Herald-Advocate, August 26, 1976).

Certain historic sites on the State of Florida Master Site File also appear in the National Register of Historic Places, a list maintained by the National Park Service and consisting of architectural, historical, archeological, and cultural sites of local, state, or national significance. Although all listings on the Master Site File could be considered eligible for inclusion in the National Register, far more historic than prehistoric sites (24 vs 2) are listed. Most of the 24 National Register historical sites in the study area are buildings (17) in the city of Tampa (all listed under Hillsborough County); all other historical sites (6) in the National Register are in Polk County.

SECTION 3

RECREATION

A. INTRODUCTION

Plate 2 (in map pocket) is an inventory of outdoor recreational areas. Included are lands owned or administered by federal, state, or local agencies, as compiled and mapped by the Florida Department of Transportation in its "areas of environmental concern" series. All of the sites indicated are open to the public, and most are under public administration.

The hectares (and acres) of all recreational areas (by county) listed in the Department of Transportation "areas of environmental concern" map series are as follows:

County	Total Hectares (Acres) in Recreational Areas	
Hillsborough	8,578.0	(21,196.0)
Manatee	4,753.6	(11,746.1)
Sarasota	8,761.8	(21,650.4)
Charlotte	25,443.9	(62,871.8
DeSoto	90.5	(223.6)
Hardee	312.3	(771.7)
Polk	28,818.2	(71,209.7)
Total	76,758.3	(189,669.3)

The Bureau of Planning of the Florida Division of Recreation and Parks has inventoried existing recreational resources and facilities by planning regions, but the 7-county study area lies within three different multicounty planning regions, prohibiting a precise inventory.

Public demand for recreational areas is difficult to measure. "Outdoor recreation demand" is used here to express a quantity of recreational resources and facilities that may be required to satisfy some probable volume of recreation. Intensity of use of recreational facilities varies over time, with peak days and periods being the most important factor in assessing the adequacy of existing facilities (Florida Division of Recreation and Parks 1976). Increasing urbanization is placing greater demands on existing recreational facilities and is increasing the need for additional facilities.

B. PHYSICAL ENVIRONMENT

The type and quality of recreational resources are controlled to a large extent by the physical environment. The mild climate and abundance of water are the major physical elements favoring recreation in the study area. The topography is characterized by little relief other than a series of low ridges or highlands situated on the Coastal Lowlands marine plain. Elevations range from 0 to 99 meters (325 feet) above sea level, but the terrain has an overall flat appearance. The subtropical climate - especially the mild, relatively dry winters - favors outdoor activity. Temperatures in coastal locations are moderated by the Gulf of Mexico.

Most of the larger recreational areas, especially the state parks, are characterized by a greater variety and higher density of vegetation than much of the study areas as a whole. The vegetation offers a habitat for wildlife and has aesthetic value.

Water-based recreation predominates in the study area. Numerous lakes and rivers, in addition to the coastal beaches and estuaries, provide excellent opportunities for fishing, boating, and swimming.

C. ORGANIZED RECREATIONAL AREAS

1. State Parks

The Division of Recreation and Parks (within the Department of Natural Resources) is responsible for acquiring and developing land and operating Florida's recreation and parks system. A state park must have some special quality that will attract visitors to it from long distances (Florida Division of Recreation and Parks 1976).

Four of Florida's 29 state parks - Highlands Hammock, Myakka River, Hillsborough River, and Lake Kissimmee (the latter presently undeveloped and under construction) - are located in the study area.

Florida's first state park, Highlands Hammock, was acquired in 1935 and is located in Highlands and Hardee counties 9.6 kilometers (6 miles) west of Sebring off U.S. 27 and 98; only 113 hectares (280 acres) of its 1,538 hectares (3,800 acres) are in Hardee County. Its main attractions are extensive nature trails, especially the "Catwalk Trail," a boarded walkway through the cypress swamp. The park is inhabited by a large herd of deer, as well as by panthers, bald eagles, and alligators. There is a variety of vegetation, including hammock, swamp, and pine flatwoods. Facilities and/or activities include picnic tables, saltwater and freshwater fishing (no boating), museum exhibits, nature trails, and 140 campsites. Attendance for 1975-76 (July-June) was 182,241, a 4.8 percent decrease over the previous year.

Hillsborough River State Park, which was acquired in 1936, is located in Hillsborough County 9.6 kilometers (6 miles) southwest of Zephyrhills on U.S. 301 and contains 1,200 hectares (2,964 acres). Its main attractions include the Hillsborough River, which is fed by Crystal Spring; several nature trails that cross the river on "swinging bridges" and continue through the hardwood hammock; and the nearby ruins of Burnt Bridge, which was used during the Seminole Wars. Activities and/or facilities include picnic tables; swimming, fishing, and boating; nature and bicycle trails; and 118 campsites. Attendance for 1975-76 was 249,693, a 22 percent increase over the previous year.

Myakka River State Park, also acquired in 1936, is the largest of Florida's state parks; it covers 11,686 hectares (28,875 acres) in Manatee and Sarasota counties 27.4 kilometers (17 miles) east of Sarasota on State Road 72. The main attractions are the river and lakes, the outstanding wildlife sanctuary, varied plant life, dense woodlands, and a 3-mile nature trail ending on primitive Bee Island. Activities and/or facilities include picnic tables, boat ramps and docks, nature trails, museum exhibits, and 76 campsites. Attendance for 1975-76 was 166,747, a 2.4 percent increase over the previous year.

2. State Recreational Areas

Lake Manatee, Little Manatee River, Port Charlotte Beach, and Oscar Scherer are part of a system of 38 state recreation areas provided to meet the more active demands of the public. Neither specific size nor physical site attributes are defined for designation as a "recreation area," but the location is preferably convenient to the primary users to ensure availability of the most desirable recreational resources in the locality. State recreational areas permit more intensive use of recreational resources than do state parks (Florida Division of Recreation and Parks 1976).

Oscar Scherer State Recreation Area, acquired in 1956, is a 187-hectare (462-acre) site located in Sarasota County 3.2 kilometers (2 miles) south of Osprey and 11.3 kilometers (7 miles) south of Sarasota. Its main attractions are the picturesque tall pines and oaks on South Creek, a network of nature trails along South Creek bank, and varied wildlife including the rarely seen Florida Scrub Jay. Activities and/or facilities include picnic tables and pavilions; freshwater and saltwater fishing, swimming, and boating; and 104 campsites. Attendance for 1975-76 was 124,827, down 2 percent from the previous year.

The Lake Manatee, Little Manatee River, and Port Charlotte Beach state recreation areas are partially developed and not yet open to the public.

3. State Special-Feature Sites

Special-feature sites in the study area have historical or archeological interest and provide recreation through visitation, observation, and study. Special-feature sites are intended for day use only.

The Gamble Mansion and Confederate Museum, which is located at Ellenton on the Manatee River, is the oldest building on the west coast of Florida. It houses fine examples of antebellum furnishings and Confederate memorabilia.

Payne's Creek Historical Site, which is on 138 hectares (341 acres) in Hardee County, was established during the Seminole Wars. It is not yet open to the public.

Ybor City State Museum, which is in the Ybor City Historical District of Tampa, reflects a Cuban influence active since the 1880s.

4. State Fish and Wildlife Management Areas

The fish and wildlife management areas in the 7-county study area, which are under the jurisdiction of the Florida Game and Fresh Water Fish Commission, are as follows:

	Management Area	
County	Fish	Wildlife
Hillsborough	Lake Thonotoosassa Pleasant Grove	
Manatee	Manatee Lake	
Charlotte	Webb Area Reservoir Marl Pits 1,2,3	C. M. Webb
DeSoto	DeSoto Pond	
Hardee	Pioneer Park	
Polk	Lakes Crago, Julianna, Mattie, and Parker Saddle Creek	Avon Park **Green Swamp**

Sizes and facilities vary widely: some of the areas offer improved access roads, fish stocking, and boat ramps; others offer major facilities for camping, picnicking, and nature appreciation. Hunting and fishing regulations vary from area to area.

5. State Aquatic Preserves

There are two state aquatic preserves in the study area: Cockroach Bay in Tampa Bay; and Cape Haze-Gasparilla Sound in Charlotte Harbor. The Division of Resource Management (Department of Natural Resources) administers these state-owned submerged lands, which have exceptional biological, aesthetic, and scientific value. Preserve management programs stress protection of existing natural values and, at the same time, promote compatible recreation such as boating, fishing, skin diving, and nature appreciation (Florida Division of Recreation and Parks 1976).

6. State Canoe Trails

The Florida Canoe Trail System, established in 1971, encompasses portions of 35 rivers and more than 1,529 kilometers (950 miles). There are four canoe trails within the 7-county study area along portions of the Alafia, Little Manatee, Upper Manatee, and Peace Rivers (Plate 2). The Division of Recreation and Parks publishes a Canoe Trail Guide, but there is no public land acquisition in conjunction with the program (Florida Division of Recreation and Parks 1976).

7. Federal Recreation Areas

The state administers most of the government-sponsored recreational facilities in the study area, and the federal government administers two national wildlife refuges and a national memorial in the study area. Under the jurisdiction of the U.S. Fish and Wildlife Service, the wildlife refuges are Island Bay, which is located on several islands surrounded by a state aquatic preserve in Charlotte Harbor; and Passage Key, which is on an island in lower Tampa Bay. Both are limited-purpose outdoor recreation areas providing primarily nature study and natural scenery appreciation (Florida Division of Recreation and Parks 1976). At the DeSoto National Memorial, which is located in Tampa Bay 8 kilometers (5 miles) west of Bradenton and is administered by the National Park Service, facilities are limited to a visitor center and a nature trail.

8. County and Municipal Recreational Areas

All seven counties in the study area have county and municipally sponsored parks, but the number and facilities vary widely. County facilities are typically resource-based and user-oriented, and counties are primarily concerned with local outdoor recreational needs.

Plate 2 does not show specific locations of sites within municipalities but does indicate the number of parks within municipalities. Of the 76,758.3 hectares (189,669.3 acres) in all recreational areas in the entire study area, 2,056 hectares (5,079.2 acres) are within municipalities.

9. Private Recreational Areas

Private recreational areas such as golf courses, marinas, and campgrounds contribute to the recreational resource base of the study area. Saltwater fishing from charter or private boats is an important element of private recreation. Tarpon fishing, for example, is popular along the entire Gulf Coast of Florida. An inventory of private recreational facilities is not presented here because of its size, complexity, and frequently changing nature. It should be noted, however, that private recreational programs significantly impact the overall supply of recreational opportunities (Florida Division of Recreation and Parks 1976).

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CHAPTER 2

DEMOGRAPHY, ECONOMICS, CULTURE

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SECTION 1

INTRODUCTION

This chapter describes and analyzes the demographic, economic, and cultural characteristics of the 7-county (Charlotte, DeSoto, Hardee, Hillsborough, Manatee, Polk, and Sarasota) study area (about 6,700 square miles) of central Florida. Local, University of Florida, and OBERS projections of demographic and socioeconomic growth have been used for comparison. Population, population density, and other socioeconomic indicators pertinent to the study area are projected for 1980, 1990, and 2000 and discussed in Section 6.

The primary socioeconomic data sources for this volume were the Four River Basins Area Economic Base Study, Water Resources Management Study (U.S. Army Corps of Engineers 1976), the Florida Statistical Abstract: 1976 (University of Florida 1976), and The Florida Phosphate Industry: A History of the Development and Use of A Vital Mineral (Blakey 1973). TI's use of these documents as primary data sources is consistent with the EPA's goal of maximizing use of existing information.

SECTION 2

HISTORICAL SKETCH OF STUDY AREA

The purpose of this overview of the cultural and historical background of the study area is to permit the reader to see that the economic development of central Florida has involved and probably will continue to involve conflict among the cultural resources and cultural development objectives in the study area. This section consists of selected excerpts from The Florida Phosphate Industry (Blakey 1973). It sets the stage for the reader's easier comprehension of the socioeconomic baseline set forth in this volume.

This area of Florida was first explored by the Spaniard Panfilo de Narvaez in 1528 when he discovered the Indian villages of Ucita and Mucoso. Spanish explorer Hernando DeSoto is believed to have landed at Terra Ceia Island (near Bradenton) in 1539 and to have begun his trek northward into north Florida. The Anglo-American history of the study area did not begin until 1823, when Fort Brooke was founded on the Hillsborough River 2 years after the United States purchased Florida from Spain. The area began to be settled in 1823 when military forces moved into the region from upstate at Pensacola. For a short time, Tampa Bay was a favorite rendezvous for pirates.

Until 1842, the Seminole War prevented widespread settlement; when it ended, however, the area was open for settlement. By 1847, the town of Tampa had been founded.

In 1860, the state had a population of less than 141,000, no manufacturing enterprise worthy of the name, about 400 miles of railway with no connections to the systems of nearby states, and an economy almost totally dependent on cattle and cotton production. When the Civil War ended in 1865, Florida faced most if not all the problems of economic rehabilitation encountered by the rest of the South, although the physical devastation was less than that experienced by other states. From 1865 until the early

1880s, Florida's economic recovery proceeded slowly: population continued to grow, but the state did not experience the economic forces that were enveloping other states. To attract investors, concessions and inducements had to be made; thus, the state's natural resources were offered for exploitation and development on terms that proved to be most attractive. When William D. Bloxham was inaugurated governor of Florida in 1881, the age of developers was at hand; he inherited a shaky state financial situation and moved to correct it by selling large amounts of public land at bargain prices. By the end of Bloxham's term, more than 10,000,000 acres of land had been sold. Railroads and big investors were the chief beneficiaries of the land sales; however, these actions promoted settlement and development, and the population increased at a rate of almost 14,000 persons per year during Bloxham's term.

Northern promoters invested heavily in Florida during the 1880s: large hotels were built by New York millionaires; land and orange-growing schemes multiplied; new towns were located; and railroads were extended to Tampa and Punta Gorda. Citizens of central Florida hoped and believed that the area would soon become America's Garden of Eden. A killing cold wave that destroyed the citrus crop in 1886, followed by epidemics of yellow fever in 1887 and 1888 and a drought from 1886 to 1888, caused many small towns to lapse into chronic and extreme poverty. The people depended for their livelihood mainly on the growth and sale of cattle, timber, citrus, and vegetables; one important and totally indigenous industry was based on the numerous alligators in the region and centered around Fort Meade. All in all, surviving among the undulating hills, untouched forests, and small frontier communities of this part of Florida was hard and life was austere. The meager diet of the inhabitants was made palatable by the abundance of fish and wildlife. Most of the settlers in these isolated areas were probably not aware of the importance of phosphate rock, even if they knew that finds had been made in the area.

In 1890 came the announcement that high-grade phosphate rock had been discovered near Dunnellon, Marion County; newspapers all over the state headlined the discovery and, unlike the brief publicity given to earlier and lesser discoveries, devoted so much space to the event that the news soon spread throughout the nation. Thousands of would-be prospectors surged into Florida, and the state experienced a boom similar to the California gold rush of 1849, although on a much smaller scale. New capital poured into the state, and an amazing transformation took place almost overnight. Banking, commerce, and real estate expanded rapidly, and new buildings sprang up to accommodate the influx of prospectors and investors.

From 1889 through 1940, Florida companies mined slightly more than 78,000,000 metric tons of phosphate rock constituting less than 3 percent of the Bone Valley deposits in central Florida. The industry expanded tremendously after 1940 in response to an ever-increasing world demand for phosphate rock. Technological advances in the 1920s and 1930s enabled the Florida phosphate industry to meet this demand and to retain its position as the world's largest producer of this vital fertilizing agent. The years since World War II have been characterized by unprecedented growth and expansion.

Floridians discovered during the 1950s and 1960s that rapid growth produced problems as well as prosperity; there were rapidly mounting pressures on land and other resources and a demand for more and better public services. As an example, the state's education appropriation rose from slightly more than $68,000,000 in 1949 to almost $858,000,000 in 1969, and the cost of highway construction increased from $41,000,000 in 1949 to $342,000,000 in 1969. In sum, total state disbursements jumped from $250,000,000 in 1949 to $3.1 billion in 1969. Obviously, taxes also increased during these years.

The phosphate industry has felt the impact of modernization and urbanization in several ways. Increasing numbers of voters concluded that reliance on sales, use, and excise taxes was unfair and demanded that corporations and extractive industries be required to pay their fair share of the tax burden. Also, public opinion became increasingly hostile to any endeavor, such as strip mining, that polluted the state's air and water and blighted the landscape. As in earlier periods of the state's and nation's history, the man/land relationship in Florida during the 1960s was again conducive to ideas of conservation and public regulation. Despite industry protests that legal restrictions can stifle or reduce growth and result in conditions detrimental to the state's continued development, the public had decided that the most economical way of achieving social objectives is not necessarily the best. Today, the Florida phosphate industry is a multibillion dollar business. Exact figures are not available, but the industry's net worth probably approaches $3 billion. The industry has continued to grow despite an industry spokesman's warning in 1966 that "ominous clouds on the horizon could mean the end of phosphate expansion" in Florida (Orlando Sentinel June 1966). The world fertilizer demand will increase, and Florida producers will undoubtedly play a major role in satisfying the need for phosphate rock; at the same time, some of the major problems the industry has faced during the last decade remain unsolved. In addition to increasing competition and dwindling reserves, Florida phosphate industry operators have a tarnished public image resulting from claims that the industry is guilty of polluting the air and water of central Florida, should be required to reclaim mined-out areas, should pay a severance tax to the state, and is partially responsible for depleting the water supply of Polk County.

Paralleling phosphate industry development are tourism and retirement communities. When travel restrictions were lifted at the end of World War II, tourism again became a major factor in the economy of western Florida. The postwar change that perhaps has meant the most to the economic and social composition of the area was higher federal and private pensions. Housing, services, and governmental activities now reflect the booming retirement industry. As an example, Punta Gorda, the county seat of Charlotte County, once a quiet little town, has burgeoned into one of the thriving and progressive small cities on Florida's west coast and is a popular retirement area. It is located on Charlotte Harbor at the mouth of the Peace River, is surrounded by miles of river, harbor, creeks, and canals, and has palm-lined streets and a bayfront that has been transformed into one of the finest shopping, boating, beach, and park complexes in the state. Port Charlotte, 2 miles north of Punta Gorda, is one of the largest retirement complexes in the state.

SECTION 3
DEMOGRAPHIC CHARACTERISTICS

A. INTRODUCTION

This section updates the 1970 population profile for the seven counties of the study area (Charlotte, DeSoto, Hardee, Hillsborough, Manatee, Polk, and Sarasota) using the U.S. Census of Population for 1970 and University of Florida estimates for July 1975 (University of Florida 1976). Population projections appear in Section 6.

B. CURRENT POPULATION PROFILE

Between the 1970 census of population and the July 1975 estimate, Florida's population grew by 25 percent. Table 3.1 shows that growth in four of the seven counties was greater than the substantial increase in the total state population. Charlotte led the list of high-growth counties with a 53-percent population increase between 1970 and 1975. DeSoto, Sarasota, and Manatee counties also experienced a percentage increase in population greater than that of the state. Hardee, Hillsborough, and Polk counties grew less than 25 percent during the same period. One important aspect of the population growth is that it was caused largely by migration rather than by natural increases (Table 3.2).

Table 3.1. Total Population by State and Seven Counties in Study Area, 1970 and 1975*

County	April 1, 1970 Census	July 1, 1975 Estimate	Percent Change
Charlotte	27,559	42,190	53
DeSoto	13,060	18,190	39
Hardee	14,889	18,511	24
Hillsborough	490,265	605,597	24
Manatee	97,115	123,506	27
Polk	227,222	275,973	21
Sarasota	120,413	163,172	36
Total	990,523	1,247,139	26
Florida	6,791,418	8,485,230	25

*University of Florida (1975), U.S. Bureau of Census (1970).

Table 3.2. Percentage of Growth by Natural Increase and Migration, 1970-75*

County	% Natural Increase	% Net Migration
Charlotte	10.6	110.6
DeSoto	8.2	91.8
Hardee	25.2	74.9
Hillsborough	17.6	82.4
Manatee	-8.4	108.4
Polk	17.9	82.1
Sarasota	-10.7	110.7

*University of Florida (1976).

1. Charlotte County

Charlotte County's population was estimated to be 42,190 in 1975, up from 27,559 in 1970. In 1970, Port Charlotte, an unincorporated area, had the largest population (10,769) in Charlotte County; Punta Gorda had 3,879 residents.

Charlotte County has the state's largest percentage of residents older than 65; as a proportion of total population in the county in 1974, they comprised 47 percent, up from 35 percent in 1970, when the median age was 58.3. Judging from the trend, half of the county's residents will soon be older than 65. Charlotte County's proportion of elderly is almost three times that of the state as a whole. However, the working-age population (25-64) is still a relatively substantial portion of the county's population, i.e., 34 percent. Persons younger than 25 are considerably fewer than statewide or in neighboring counties.

These data permit two conclusions: employment trends in the county reflect the need for services catering to older people, and schools need not expand rapidly.

2. DeSoto County

DeSoto County's population estimate as of July 1, 1975, was 18,190. The county is predominantly rural, with 65 percent living in unincorporated areas. Arcadia is the largest town (population 6,106 in 1974).

3. Hardee County

Hardee County's population as of July 1, 1975, was estimated to be 18,511. The county is predominantly rural, with over half of the population living in unincorporated areas. Wauchula (1975 population of 4,145) is the largest town. Bowling Green (1,558 residents) and Zolfo Springs (4,627 residents) are the other two sizable towns.

4. Hillsborough County

The population of Hillsborough County was 605,597 (estimate) in 1975. Of the county's municipalities, Tampa experienced the largest gains in population and dwelling units; the former increased by 2,167 in 1974, bringing the total as of January 1, 1975, to 297,463.

5. Manatee County

Manatee County's population was 123,506 (estimate) in 1975, according to the University of Florida's estimates. (The Comprehensive Plan uses 123,491, about 0.6 percent higher). About 62 percent live in unincorporated areas. Bradenton is by far the largest municipality, with an estimated 1974 population of 25,126.

6. Polk County

Polk County's population as of July 1, 1975, was estimated to be 275,973. Lakeland, with a 1974 population estimate of 45,360, is the largest city in the county.

7. Sarasota County

In Sarasota County, the major city is Sarasota, an area of 17 square miles with a population of 42,000. Smaller municipalities include Longboat (4,400 residents), North Port (4,500), and Venice (16,000). The unincorporated areas of the county account for almost 96,000 people out of the total county population of 163,172.

C. AGE DISTRIBUTION

Age is perhaps the population's most significant feature. For example, the age of the people who move to the counties in an area is important, since a large influx of new residents of any one age group may affect the character of the area's economic base. The median in Charlotte County, for example, is 58.3; half its residents are 58 or older. Many of the study area's newer residents are older. This trend toward older residents has existed for several years, as reflected in Table 3.3.

Table 3.3. Median Age of Population by County, 1960 and 1970*

County	1960	1970	1970 % over Age 65
Charlotte	44.8	58.3	35.1
DeSoto	36.5	34.5	15.6
Hardee	29.1	26.6	10.0
Hillsborough	30.4	28.5	10.4
Manatee	41.1	48.7	30.2
Polk	29.1	29.8	12.6
Sarasota	40.5	49.6	28.6

*U.S. Bureau of the Census (1960 and 1970).

Population "pyramids" are used to examine the age distribution of the counties and to determine whether changes occurred between 1970 and 1975. A population pyramid is a bar graph that displays age cohorts (members of the same age group) along the vertical axis and indicates the percent of the total county population in each cohort along the horizontal axis. To distinguish between males and females in each cohort, a vertical axis is placed in the center of the graph and the population is recorded by sex outward in opposite directions. Thus, one side measures the percent of total population in each cohort that is male and the other side measures the percent of total population that is female.

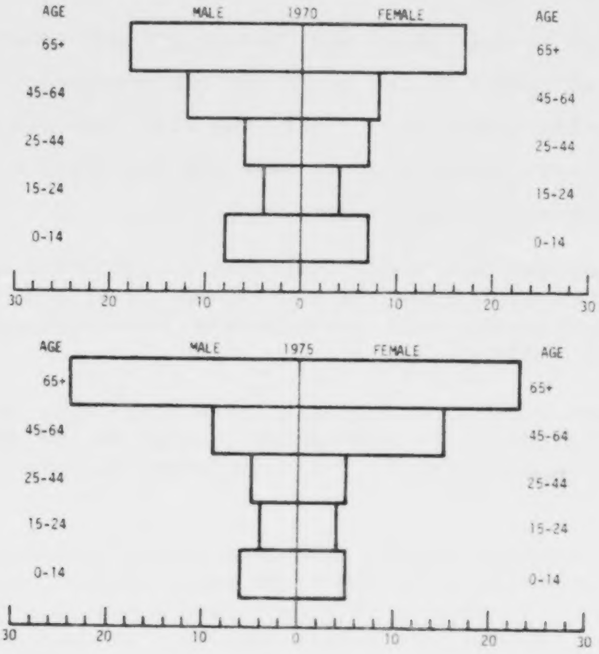
- A conical population pyramid indicates a high birth rate, a large group of school-age and working-age young people, and very few old people. Such pyramids are characteristic of an agricultural society.
- A cylindrical pyramid indicates a lower birth rate and an even distribution of the population throughout the age cohorts. Such pyramids are found in industrialized societies.
- An inverted conical pyramid indicates a high concentration of elderly citizens and a low birth rate. Without migration to the area, a pyramid of this shape would normally become cylindrical, because the younger cohorts reproduce and the older cohorts have a higher mortality rate than the younger. Ordinarily, the only way this shape can be maintained is through immigration of people in the older age cohorts.

1. Charlotte County

Consider the 1970 population for Charlotte County in Figure 3.1; the inverted conical graph indicates a large portion of the county population in the age cohorts that are usually retired or about to retire. Referring now to the 1975 pyramid for Charlotte County in Figure 3.1, one sees that the inverted conical shape has not eroded but rather has become more pronounced as the population has increased. It can be concluded, therefore, that a very large portion of the new residents are elderly.

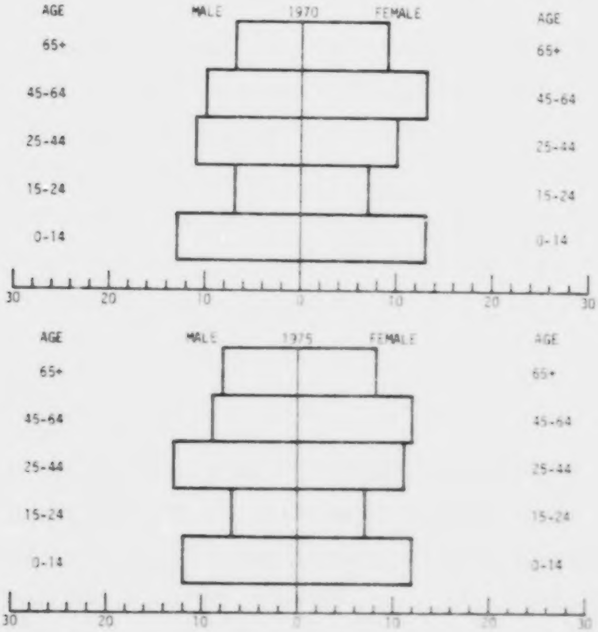
2. DeSoto County

In 1970, DeSoto County had a roughly cylindrical pyramid (Figure 3.2); in 1975, the shape remained basically unaltered except for slight shrinkage in the youngest and two oldest age cohorts and some growth in the 25- to 44-year-old group. Thus, it appears that the new residents of DeSoto County are fairly evenly distributed throughout the population pyramid.



Scale: Numbers equal percent of total population.
Total may not equal 100% because of rounding.

Figure 3.1. Charlotte County Population Pyramids, 1970 vs 1975



Scale: Numbers equal percent of total population.
Total may not equal 100% because of rounding.

Figure 3.2. DeSoto County Population Pyramids, 1970 vs 1975

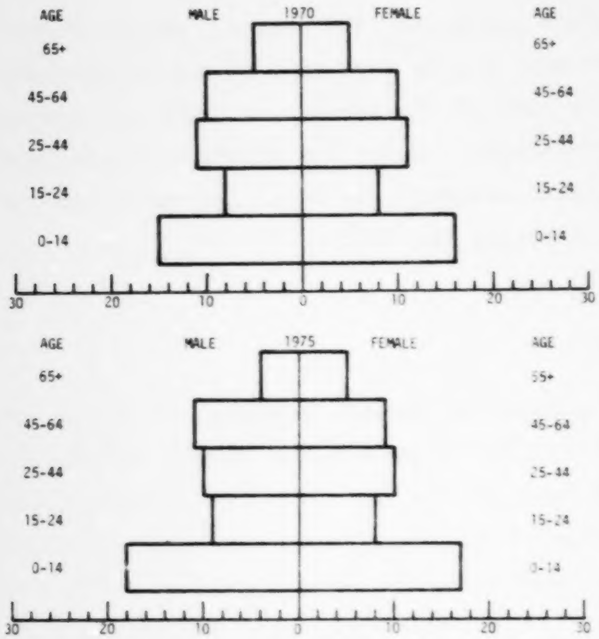
In the 15 years since the 1960 census, DeSoto County's age distribution has remained more stable than that of any other county. The proportion of residents over 65 (15 percent in 1974) is high but slightly less than Florida's 17 percent. Other age groups have remained stable, exhibiting only fractional changes. In fact, the median age in DeSoto County dropped 2 years to 34.5 during the 1960s.

3. Hardee County

The conical population pyramid displayed by Hardee County in 1970 became more pronounced in 1975 (Figure 3.3). Hardee had the highest natural increase in population between 1974 and 1975. The three oldest age cohorts, taken as a group, declined slightly as a percentage of the total population, and the two lowest age cohorts gained about 5 percent. Thus, it is apparent that migration accented the natural demographic profile of the county.

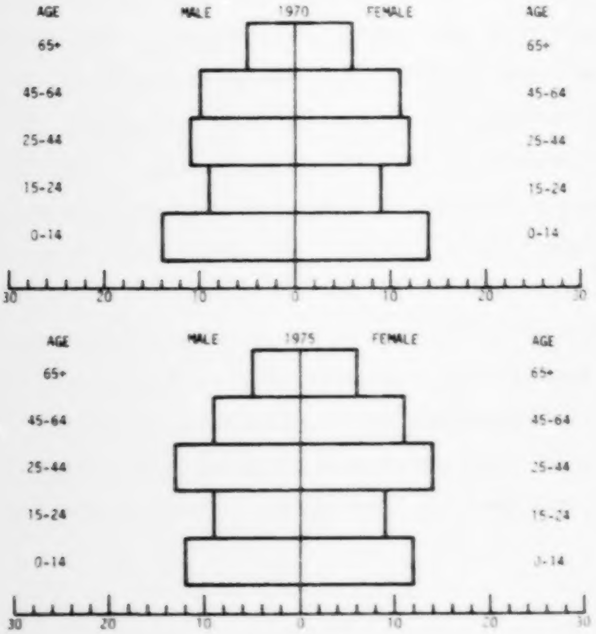
4. Hillsborough County

Hillsborough County's 1970 pyramid (Figure 3.4) is approximately cylindrical if the 65-and-over age cohort is exempted. The basic shape of the pyramid remained the same in 1975, but the percentage of the county population in the prime working age group (25-44) increased; in absolute terms, this dwarfed the growth of the other age groups. The additional 46,000 residents was nearly double the number of new residents gained by the cohort with the next largest gain (15-24). It can be inferred that a large number of the migrants were members of the 25- to 44-year-old group. The small proportion of the county population 65 years and over can be explained by the size of Hillsborough County's population. A frequently used behavioral hypothesis (which is supported by a reasonably large body of empirical research) states that, as an area grows and becomes increasingly urbanized, the elderly become less inclined to live there. This appears to be the case in Hillsborough County.



Scale: Numbers equal percent of total population.
Total may not equal 100% because of rounding.

Figure 3.3. Hardee County Population Pyramids, 1970 vs 1975



Scale: Numbers equal percent of total population.
Total may not equal 100% because of rounding.

Figure 3.4. Hillsborough County Population Pyramids, 1970 vs 1975

Hillsborough County's population mix by general age groups closely resembles that of the United States. In 1970, the percentages were nearly identical for the 18- to 64-year-old groups (those of labor-force age). Hillsborough County did not have an unusually high proportion of the elderly, as do many areas in Florida: only 12 percent of the county's population was 65 and over. Most of Hillsborough's populace resides in and around Tampa Bay, a labor-intensive area; therefore, it is not surprising that the county's median age, 28.5 is notably lower than Florida's 32.3 and similar to that of the United States, 28.3.

5. Manatee County

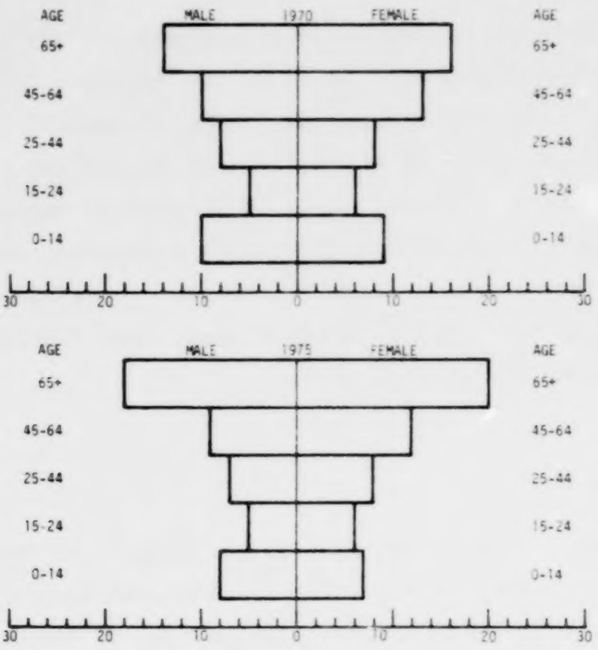
As in Charlotte County, the population pyramid for Manatee County (Figure 3.5) goes from a merely distinguishable inverted cone to a very pronounced inverted cone, indicating that a large portion of the new residents must be elderly. The proportion of residents over 65 has steadily increased in the county and is still increasing.

6. Polk County

Polk County exhibited a roughly cylindrical population pyramid in 1970 (Figure 3.6), reflecting fairly even distribution of its population over the age groups listed. In 1975, the cylindrical shape of the pyramid became more pronounced because of an increase in the proportion of the county's population in the oldest age cohort and a decrease in the youngest. This change reflected the continuing transition from an agricultural to a commercial and industrial county. Since the 1960 census, Polk County's over-65 population has grown proportionally over all other age groups.

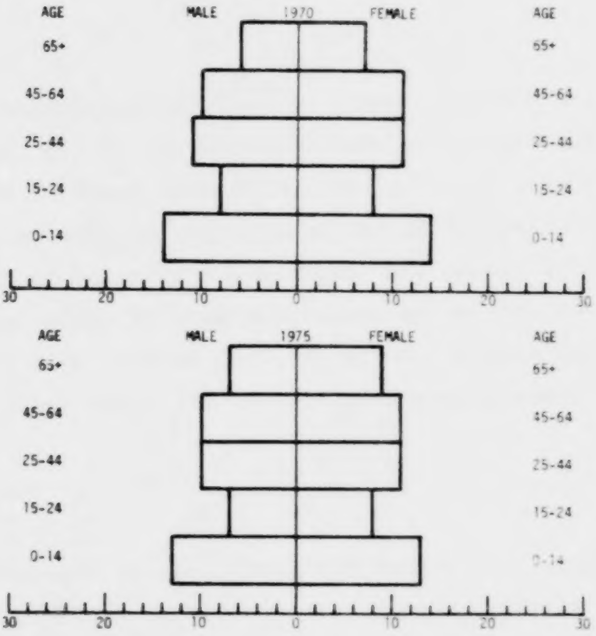
7. Sarasota County

Sarasota (Figure 3.7) shared the experience of Charlotte and Manatee counties and is easily distinguished by its population profile, which is of a county with an extremely high concentration of elderly residents. Since the 1960 census, the younger-than-65 population in Sarasota County has declined as a



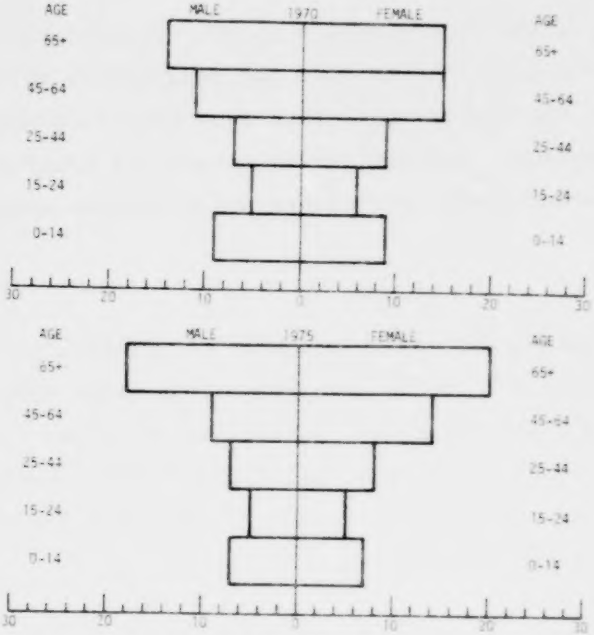
Scale: Numbers equal percent of total population.
Total may not equal 100% because of rounding.

Figure 3.5. Manatee County Population Pyramids, 1970 vs 1975



Scale: Numbers equal percent of total population.
Total may not equal 100% because of rounding.

Figure 3.6. Polk County Population Pyramids, 1970 vs 1975



Scale: Numbers equal percent of total population. Total may not equal 100% because of rounding.

Figure 3.7. Sarasota County Population Pyramids, 1970 vs 1975

share of the total. This loss has been compensated entirely by the expanding elderly population. The largest percentage loss was in the working population (25-64), which dropped from a 48-percent to a 37-percent share. The younger group also decreased from about a third to a quarter. All the segments gained absolute population, of course, but the over-65 age group gained the most.

D. POPULATION TRENDS AND DEVELOPMENT PATTERNS

A generalized view of 1975 population density superimposed with projected density for the year 2000 is presented as Plate 3. which is inserted in the pocket at the end of the document.

1. Charlotte County

Charlotte County is among the fastest growing counties in the state. The population doubled (119-percent increase) in the 1960s and gained another 53 percent in the next 5 years. Population density changed between 1970 and 1974 from 39.2 persons per square mile to 56.7 persons per square mile, moving the county up in rank from thirty-second of Florida's 67 counties to thirtieth. Current (1975) population density is 60 persons per square mile; nevertheless, the county still remains about one-third as dense as the state.

The current pattern of development is oriented primarily toward the coast, although recent trends have been along major transportation arteries. Development is generally in three major areas: along State Road 775 between Englewood, Placida, and Cape Haze; in Port Charlotte and the Charlotte Harbor area along U.S. 41 south of the Peace River; and in Punta Gorda and the area south along U.S. 41.

2. DeSoto County

DeSoto County had a sharp population growth of 39 percent between 1970 and 1975, ranking it second behind Charlotte County. DeSoto's population density of 28 persons per square mile in 1975 places it forty-fifth in population density of Florida's 67 counties, a position it has held throughout this decade.

3. Hardee County

Hardee County's growth has been substantial: 20 percent in the 1960s and 24 percent during the next 5 years. The state, by comparison, grew 37 percent from 1960 to 1970 and 25 percent during the next 5 years. Hardee County was thus in a mid-growth group in the state: its rate of growth was slower than that of DeSoto County but more rapid than neighboring Manatee, Hillsborough, or Polk counties. Hardee County's increase was more balanced than in many neighboring counties: 78 percent of its population change was attributable to net migration. Polk and DeSoto counties experienced immigration, accounting for more than 90 percent of their increases, whereas Manatee County lost population by natural means. In 1974, Hardee County ranked 43 among the state's 67 counties in terms of population density, and its current density is 29.4 persons per square mile.

4. Hillsborough County

During the 1960s, Hillsborough County continued the substantial growth that has been evident throughout most of this century. The population increased by 92,477 (23 percent) between 1960 and 1970; however, this was notably lower than the 59-percent increase during the previous decade. During the past decade, more than half of the counties in Florida grew at higher rates than Hillsborough, dropping the county from third to fifth most populous county in the state. In 1974, the county's population increased by approximately 31,600 persons, or 5.2 percent, raising the estimated total to 632,600 by mid-1975. The Brandon, University of South Florida, Town and Country, and Ruskin-Apollo Beach areas experienced large population gains, as did the Lake Carroll area which had had only moderate increases in 1973; by January 1975, Lake Carroll had an estimated 307,000 people and more than 105,000 homes. However, Hillsborough County has still not recovered from the economic recession of 1973-74. Building permits, for example, plummeted in 1974. The number of contracts for multiple-family housing dropped from 10,359 to 2,447 units. Nevertheless, the population growth for the county has been strong for decades and will probably continue to be strong.

The greatest growth has occurred in the areas immediately surrounding Tampa, i.e. the areas to the north and west of the Tampa city limits and the Bradenton area. From 1960 to 1970, Tampa increased by only 1 percent (2,797 people). Although it continued to house the majority of the county's residents, its share of the total county population dropped from 60 percent in 1960 to 57 percent in 1970; the city's population increase during this period can be linked to the expansion of the city limits. The greatest population growth in the county was in the University of South Florida area and was attributable almost entirely to new multifamily complexes aimed primarily at capturing the markets associated with the University of South Florida and the Veterans Administration Hospital. Brandon was the second major growth area: population in its two census tracts increased by nearly 4,000 and single-family houses by more than 1,300. Similarly, the Town and Country area was once again one of the leading growth areas; the percent increase was not exceptionally high, but the population increased by more than 2,000 and slightly more than half the new units are multifamily dwellings. The Ruskin-

Apollo Beach area was a fourth area of significant growth during 1974; virtually all of the new housing units in this tract were in the single-family category, and more than half were mobile homes in mobile-home parks. A major apartment complex and two single-family developments were largely responsible for the fifth major growth area, which is south of Smitter Road and east of Dale Mabry Highway.

Hillsborough County's increase has been substantially due to immigration. Immigrants outnumbered the natural increase by 5 to 1 between 1970 and 1974.

To obtain gross density figures, January 1, 1975, population figures were consulted. Highest densities occur near the Tampa central business district (CBD), in the northern Bayshore Boulevard area, in and near Temple Terrace, just outside Tampa on north Dale Mabry Highway, and in Plant City. Population density generally is proportional to distance from cities: highest densities are in and near the cities, but a number of exceptions come from concentrations of other land uses (e.g., heavy industries) that discourage or preclude residential use.

5. Manatee County

Manatee County's growth has been exponential throughout this century: it gained 33 percent in the 1940s, almost doubled in the 1950s, gained another 40 percent in the 1960s, and by 1975 had gained another 26 percent. In density, the county ranked sixteenth in 1974, with 159.2 persons per square mile. The growth has been entirely from immigration, since the birth rate dropped by 1,850 between 1970 and 1974.

Manatee County's existing development pattern is oriented toward the coast and centered along U.S. 301 and U.S. 41 in the western portion of the county. Intense urban development begins in Palmetto and continues south through Bradenton (the county seat) into Sarasota County. This is primarily the Bradenton urban area, which also extends east and west along the Manatee River. As in Sarasota County, the offshore islands are intensely developed. The eastern portions of the county are primarily underdeveloped except for the small communities of Myakka City, Manhattan, and Parrish; these communities are agriculturally oriented and serve as convenience centers for rural areas.

Historically, the major area of development in Manatee County has been and continues to be the Bradenton urban area. Within this area are three rapidly developing centers: the area north of Palmetto along U.S. 19 and U.S. 41, the area west of Bradenton, and the area southeast and south of Bradenton along U.S. 301.

6. Polk County

Polk County has grown rapidly: 43 percent between 1940 and 1950 and 57 percent between 1950 and 1960. Its growth has begun to stabilize, although the county recorded a 16.4-percent increase from 1960 to 1970 and was again on the upsurge (21.5-percent increase) from 1970 to 1975. In density, Polk County dropped from sixteenth to seventeenth of Florida's 67 counties between 1970 and 1974. In 1975 (using the University of Florida's estimate of 275,973 people), density was 149 persons per square mile; in 1960, it had been 105 persons per square mile; in 1970, 122.7 persons per square mile.

Polk County's existing development pattern, like Hillsborough's, is one of the most diverse in the study area. It ranges from the intense residential and commercial development along Interstate Highway 4 and U.S. Highway 17 in the central portion of the county to the agricultural activity and phosphate mining that dominate the northern and southern portions respectively. This historical development pattern appears in three portions of the county:

- The northern portion of Polk County (essentially north of I-4) is primarily agricultural. In the northeast, wetland areas are quite extensive; therefore, most agricultural activity is concentrated in the northcentral area.
- Residential and associated commercial support facilities are concentrated in the towns of Gibsonia; opposite Lakeland along I-4; and in Providence along U.S. Highway 98.

- The central portion of Polk County, which is bounded by the two east-west highways I-4 and S.R. 60, contains the county's major urban centers: Lakeland and Winter Haven along U.S. 92 and Bartow (the county seat) and Lake Wales along S.R. 60. Other communities in the immediate area include Haines City and Mulberry.

7. Sarasota County

Sarasota County's growth over the last 15 years has been very great: 57 percent in the 1960s (from 76,895 to 120,413) and another 46 percent up to 1975. Population density was 205.1 persons per square mile in 1970 and 300 persons per square mile in 1975. The densest census tracts were in Sarasota City, namely the Northeastern, Central, Southeastern, and Southwestern suburbs tracts. Each of these tracts had a density of more than 3,800 persons per square mile. The least dense tracts were Eastern Sarasota County, Lido Key, and the Lake area east of Fruitville, none of which had as many as 130 persons per square mile.

Sarasota County's existing development pattern is coastal-oriented and centered around existing transportation arteries. Development in the northwestern section around Sarasota, the county seat, is by far the most extensive. Other concentrations of urban development include the two coastal cities of Venice and Englewood, as well as North Charlotte, which is located along Charlotte Harbor. These development centers are all on U.S. 41, which runs generally north and south through the county.

Increasing development pressures have caused urban expansion from the city of Sarasota eastward toward the proposed I-75 expressway corridor. The growth pattern between the city and Venice has resulted in strip development along U.S. 41. This arterial highway provides access and a major transportation facility for the area, while the shoreline provides the incentive for development. The North Port Charlotte area has experienced commercial and industrial development pressures but has remained residential. Industrial development has been confined primarily to the northwestern section of the county, centering along U.S. 301 extending north into

Manatee County. As the southwest Florida consumer market increases, industrial development in this and other areas of Sarasota County will also increase. An important aspect of future development is completion of proposed I-75; this highway will accelerate urbanization of many areas while improving the inter- and intraregional transportation system.

SECTION 4

SOCIAL CHARACTERISTICS

The study area's social characteristics include:

- Housing
- Income distribution
- Employment/unemployment
- Facilities and services

A. HOUSING

There is a close relationship between rapid increase in population, accelerated construction activity, and size of the housing stock. Determining causality, however, is difficult. Population increases lead to accelerated construction and more housing; this in turn leads to high-wage employment in the construction industry, which then attracts still more people, and the cycle is repeated.

Housing statistics are presented in Table 4.1 and discussed by county in this subsection. Attention is given to housing development as an indicator of economic activity and to housing standards as an indicator of social well-being. Development statistics are based on number of units and average number of persons per unit. Standards of housing are based on valuations and plumbing facilities (the lack of which is an easily accessible measure of substandard housing).

From 1960 to 1970, new housing units in the study area increased by more than 90,000, or an average of about 3 percent annually. The number of persons per unit remained the same from 1960 to 1970 but dropped from 2.5 to 2.3 average per unit from 1970 to 1973. Of more than 278,000 housing units, more than 16,000 were considered substandard in 1970. The largest percentage of substandard housing was Negro-occupied, with more than 25 percent considered substandard.

Table 4.1. Housing Statistics[†]

	1960		1970		1973		Percent Average Yearly Increase in Housing Units		Housing Quality, 1970		
	*Units	Persons per Unit	*Units	Persons per Unit	*Units	Persons per Unit	60-70	70-73	Average Value	Percentage Substandard**	Percentage Substandard Negro-Occupied**
Study Area	278,287	2.56	370,806	2.56	460,337	2.38	3.3	2.4	12,634	6.0	25.4
Charlotte	6,188	2.04	13,752	2.00	18,839	1.92	12.2	11.4	14,953	2.3	19.6
DeSoto	3,399	3.44	4,095	3.22	5,382	2.94	2.0	9.7	9,109	12.9	44.8
Hardee	4,063	3.03	4,801	3.12	6,002	2.85	1.8	7.7	8,561	11.9	41.3
Hillsborough	135,406	2.94	168,555	2.94	204,773	2.77	2.4	6.6	12,078	4.2	14.6
Manatee	30,309	2.27	42,841	2.27	52,501	2.04	4.1	6.9	14,186	3.8	27.5
Polk	64,116	3.03	80,502	2.86	97,713	2.63	2.6	6.6	12,027	6.0	23.1
Sarasota	34,806	2.04	56,242	2.12	75,127	2.00	6.2	10.3	17,524	1.2	7.3

[†] University of Florida (1970, 1975, 1976); U.S. Bureau of Census (1960, 1970).

*Units include unoccupied housing and units that may be occupied only part of the year.

**Lacking some or all plumbing facilities.

1. Charlotte County

The number of housing units increased 122 percent in the 1960s - from 6,188 to 13,752. According to the U.S. Census of 1970, 89 percent of the housing was single-family and 64 percent was constructed after 1960. In 1970, slightly more than 2 percent of the housing units were substandard; however, almost 20 percent of the Negro-occupied homes in the county were substandard.

2. DeSoto County

In DeSoto County, the number of housing units increased faster than the population: up to 20 percent between 1960 and 1970 and another 29 percent between 1970 and 1973. The stock stood at 5,382 in 1973, half having been built after 1950. The housing is 93 percent single-family. The 1970 census recorded almost 13 percent of the housing as substandard, and almost 45 percent of the Negro-occupied housing was listed as substandard. Average value of housing was below the study area average in 1970 by more than $3,500.

3. Hardee County

The stock of housing in Hardee County increased 18 percent in the 1960s, approximately the same rate as the population. The average value of housing in Hardee County in 1970 was $8,561, considerably less than the average of $12,634 for the study area as a whole. The 1970 census recorded that 45.5 percent of the houses were built before 1950 and almost 12 percent were substandard. Over 40 percent of the Negro-occupied homes were substandard.

4. Hillsborough County

The housing stock in Hillsborough County increased by 24 percent from 1960 to 1970 and increased almost 20 percent again from 1970 to 1973. About 4 percent of the housing was recorded as substandard, with 14.6

percent of the Negro-occupied homes listed as substandard. Value of housing in the county was about average for the study area.

5. Manatee County

The number of housing units in Manatee County increased by 41 percent in the 1960s and by another 21 percent to 1973. These increases closely paralleled the increase in population. Of the 52,501 units in 1973, 22.6 percent (about 12,000) were multifamily dwellings. The average value exceeded that of the study area as a whole by more than $1,500. Substandard housing in 1970 was less than 4 percent; however, more than 27 percent of the Negro-occupied units were listed as substandard.

6. Polk County

The number of housing units in Polk County increased by 26 percent from 1960 to 1970 and another 20 percent from 1970 to 1973. At the same time (perhaps because of the influx of retirees statewide and the generally smaller family size nationwide), the number of people per housing unit dropped from 3.03 in 1960 to 2.63 in 1973. For the study area as a whole, 6 percent of the 80,520 housing units in 1970 were listed as substandard; more than 23 percent of the Negro-occupied units were listed as substandard. Housing values were about the same as for the study area as a whole.

7. Sarasota County

The housing stock in Sarasota County more than doubled between 1960 and 1973; at the same time, the number of people per housing unit dropped only slightly. The average value of housing was almost $5,000 more than the study-area average. The percentage of substandard houses was less than 2 percent overall.

B. INCOME DISTRIBUTION

Per-capita income and distribution of income are important indicators of an area's economic well-being. Sources of income indicate the ratio between farm and nonfarm income and other gains or losses of income. For example, more than 1.4 billion dollars of income in the study area result from persons commuting. Obviously, worker mobility is an important aspect of the study area. Table 4.2 shows sources of income, net income, and per-capita income for the study area and each county. The factors are discussed by county in the following paragraphs. Table 4.3 shows the 1975 effective buying income per capita and the 1970 median total income per family. Projections of income appear in Section 6.

Table 4.2. Distribution of Income, 1973, by Study Area and County of Residence (in thousands of dollars except for per capita)*

	Study Area	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota
Farm Income	199,101	1,850	11,527	23,520	25,526	23,678	107,121	5,879
Nonfarm Income	1,758,419	70,575	32,958	24,745	140,560	254,823	786,953	447,805
Dividends, Interest, Rent	837,685	42,758	5,452	5,937	248,272	107,127	138,526	289,613
Transfer Payments	748,352	42,307	9,250	7,560	281,219	103,464	147,289	157,263
Adjustment for Commuting	1,439,917	(+)5,836	(-)2,432	(+)5,095	(-)100,747	(+)8,175	(-)38,334	(-)10,018
Contributions to Social Insurance	207,495	3,845	1,562	1,058	117,399	14,201	44,188	25,245
NET INCOME	5,190,972	159,461	55,193	65,799	2,464,769	483,066	1,097,367	865,297
ADJUSTED 1973 PER-CAPITA INCOME	4,409	4,339	3,726	3,938	4,506	4,282	4,311	5,764
ADJUSTED 1970 PER-CAPITA INCOME	-	3,290	2,586	2,792	3,366	3,294	3,344	4,681

*Business and Economic Dimensions July-August 1975.

Table 4.3. 1975 Effective Buying Income and 1970 Median Total Income per Family*

	State	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota
1975 Effective Buying Income per Capita	4365	4266	NA	3166	4081	4136	4208	NA
1970 Median Total Income per Household	7117	5362	5434	5254	7100	7740	6566	7739

*Sales Management Magazine

1. Charlotte County

Per-capita income by place of residence (i.e., adjusting for the income of people who commute into or out of the county) was $4,339 in 1973, up 32 percent from $3,290 in 1970.

While these figures measure total income less social security payments, a better indicator of take-home pay is effective buying income (EBI), which reduces the total by all taxes. For early 1975, EBI per capita was $4,266 in Charlotte County and $4,365 for the entire state.

In 1970, median total income per household in the county (i.e., all income less social security contributions) was $5,362, compared with a median of $7,117 for the state. Households with incomes of less than $3,000 outnumbered those with more than $15,000 almost 3:1 (the ratio is 2:3 statewide). Statistics for the end of 1974 are also available, although expressed differently; for that time, the median EBI for the county was $7,551, compared with $9,889 for the state.

Although income levels for the state were somewhat higher than for Charlotte County, the absolute differences were somewhat offset by differences in cost of living. According to the Florida price level index (FPLI) based on a 50-county sample, Charlotte County ranked 13 among Florida's 67 counties in 1974: goods and services were about 1 percent cheaper than they were statewide. Between 1973 and 1974, however, Charlotte dropped below 100 percent of [illegible] state average, growing from 9 to 13 in ranking; in other words, inflation did not strike Charlotte County quite as hard as it did other counties.

Sources of income in Charlotte County are listed in Table 4.2. Transfer payments and dividends/interest/rent income have high proportions for the county. Almost $6,000,000 is brought into the county by individuals working outside the county.

2. DeSoto County

Per-capita income was $3,726 in 1973, up from $2,586 in 1970 (44 percent increase). The state, by comparison, grew from $3,739 to $4,880 per capita, an increase of 31 percent. Although income levels were higher for the state than for the county, dollar differences were somewhat offset by differences in cost of living. The FPLI estimated DeSoto County ranked 37 out of Florida's 67 counties: goods and services were about 5 percent cheaper than they were statewide. The county's median total income per household (all income less social security contributions) was $5,434, compared with a median of $7,117 for the state. Households with incomes under $3,000 outnumbered those with incomes over $15,000 approximately 4:1, compared with 3:2 statewide. DeSoto County experienced relative inflation between 1973 and 1974. In 1970, 17.2 percent (256) of DeSoto County's families lived below the poverty level, compared with the state's 13 percent.

DeSoto County residents derived their income from the sources listed in Table 4.2. Farm income, 20 percent of the gross, represented a larger portion of county net income than it did in most of the adjoining counties.

3. Hardee County

Per-capita income was $3,938 in 1973, a 41-percent increase over 1970 and 105 percent above 1965. The state, by comparison, grew from $3,739 to $4,880 per capita, an increase of 31 percent. The early 1975 EBI was $3,166 compared with $4,365 for the state. In 1970, the median total income per household was $5,254 for the county, compared with $7,117 for the state; households with incomes of less than $3,000 outnumbered those with incomes of more than $15,000 by 13:1. The median EBI per county household in 1974 was $8,051, compared with $9,889 per household statewide. The proportion of households with EBI exceeding $15,000 relative to those below $3,000 has improved for the county, and significant economic progress has taken place: in 1970, 24 percent of the county's families had income below the poverty level; between 1973 and 1974, the county experienced intense inflation, moving from fortieth to fifty-fourth in FPLI rank; and by 1975, the number of households with more than $15,000 EBI was almost the same as those having less than $3,000.

As shown in Table 4.2, farm income, 35 percent of the gross, is one of the highest percentages in the study area.

4. Hillsborough County

Per-capita income in Hillsborough County was $4,506 in 1973, up 25 percent from $3,366 in 1970. The state, by comparison, grew from $3,739 to $4,880 per capita, an increase of 31 percent. Early 1975 EBI per capita was $4,081, compared with $4,365 for the state. Median total income per household in 1970 was $7,100, compared with the state's median of $7,117. In 1970, 19 percent of the county's families (1,543) had incomes below the poverty level. The county and the state had similar income distribution during that year as well as at the end of 1974. For 1975, the median EBI was $10,220, above the state's EBI of $9,889. Although state income levels in 1974 were higher in some cases than those of the county, dollar differences were somewhat offset by differences in cost of living. The FPLI estimated that Hillsborough ranked 27 of Florida's 67 counties: goods and services were about 3.5 percent cheaper than statewide. The county's rank in 1973 was 24; i.e., inflation had affected Florida more than it had affected Hillsborough County.

Dividends/interest/rent and transfer payments make up high percentages of the county's income. Also significant is the fact that commuting workers take more than $100,000,000 of income from the county.

5. Manatee County

Per-capita income was $4,282 in 1973, up 30 percent from 1970. Florida, by comparison, grew from $3,789 to $4,880 per capita, an increase of 31 percent. The EBI per capita for early 1975 was $4,136, which was just about the same as that for the state, $4,365. Although Florida's income levels are slightly higher than those of Manatee County, the absolute differences are somewhat offset by differences in cost of living. The FPLI ranked Manatee County nineteenth of Florida's 67 counties in 1974: goods and services were about 3 percent cheaper than they were statewide. The fact that Manatee's rank decreased from 15 to 19 between 1973 and 1974 indicated that it experienced less inflation than did the counties it passed in ranking. The county's median total income per household in 1970 was $7,740, compared with Florida's $7,117. In 1970, according to U.S. census data, 13.4 percent of all Manatee County families lived below the poverty threshold.

As shown in Table 4.2, dividends/interest/rent and transfer payments are large sources of income in Manatee County. The county also gains more than $8,000,000 from its workers commuting to jobs outside the county.

6. Polk County

Per-capita income was $4,311 in 1973, up from $3,344 in 1970. The rate of increase was considerably lower than for either the state or for counties to the east. However, in 1970-73, the rates began to converge: Polk's economic growth was more nearly like that of its neighbors. The median total income per household in Polk County in 1970 was $6,566, compared with $7,117 for the state. Households with incomes of less than $3,000 outnumbered those with incomes of more than $15,000 approximately 2:1 (22 percent of households had incomes of less than $3,000, compared with 21 percent for Florida overall). For 1974, the proportion of $15,000+ households relative to those below $3,000 improved for the county; higher-income households outnumbered lower-income households approximately 3:1. Polk County is nearly the "mythical average county:" its percentage income distribution is very close to that of the state. The early 1975 EBI per capita was $4,208, compared with $4,365 for the state.

As shown in Table 4.2, Polk County provides income of more than $38,000,000 to commuting workers from outside the county.

7. Sarasota County

Per-capita income by place of residence was $5,764 in 1973, up 23 percent from $4,681 in 1970. The state, by comparison, grew from $3,739 to $4,880, an increase of 31 percent. Sarasota, along with Hillsborough County, has a higher per-capita income than the statewide average.

In 1970, the median total income per household was $7,739, compared with $7,117 for the state. Households with income of more than $15,000 outnumbered those with incomes of less than $3,000 by about 3 percent.

According to the FPLI, Sarasota County was the sixth most expensive county in Florida in which to live and the most expensive county in the study area in which to live: goods and services were about 2.5 percent more expensive than they were statewide. Sarasota's rise in rank from eighth to sixth between 1973 and 1974 indicated that inflation was greater than in the counties it passed.

In 1974, the median EBI per household was $9,151, compared with $9,880 for the state. Sarasota's distribution was remarkably like Florida's, with $15,000+ households outnumbering those with less than $3,000 by approximately 2:1. In early 1975, the median EBI per household was $9,151, compared with Florida's $9,889.

C. EMPLOYMENT/UNEMPLOYMENT

Tables 4.4, 4.5, and 4.6 give important 1970-75 employment data for the seven counties. Employment projections are presented in Section 6. In Table 4.4 are the basic labor-market statistics of Table 4.6 in terms of their percentage changes from March 1973 to March 1974 and from March

1974 to March 1975. As can be seen, large percentage increases in the number of unemployed and the unemployment rate, along with comparable changes in the ratio of persons employed, occurred over this time period. (The three exceptions are indicated with minus signs.)

Table 4.4. Percentage Changes: Employment/Unemployment

	Percent Change in Unemployed Number		Percent Change in Employment Ratio	
	3/73-3/74	3/74-3/75	3/73-3/74	3/74-3/75
Charlotte	79	150	83	120
DeSoto	267	164	255	133
Hardee	350	-16	291	-7
Hillsborough	37	128	27	117
Manatee	58	209	42	184
Polk	7	47	-2	33
Sarasota	72	250	61	232

Table 4.6 shows that, as the population grew, the size of the labor force increased. During more prosperous times, these people might have been absorbed into the economy; however, with construction in Florida at a standstill and the entire nation in recession, these people were forced into the ranks of the unemployed. It should not surprise the reader that the counties most heavily dependent on construction and allied industries -- Charlotte, Manatee, and Sarasota -- experienced the highest unemployment. Hillsborough and DeSoto were also very dependent on construction and suffered major employment setbacks.

A clearer picture can be gained, however, by considering the employment data in Table 4.5. Looking at the data for Charlotte County from March 1974 to March 1975, it can be seen that the largest employment losses were in the three construction-related categories: construction; finance, insurance, and real estate; and manufacturing. (This last is construction-related because it manufactures products for the contruction industry.)

Table 4.5. Wage and Salary Employment by Industry, 1970-75^{+}

	March 1970	March 1971	March 1972	March 1973	March 1974	March 1975*
CHARLOTTE COUNTY						
Nonagricultural Wage and Salary Employment **	5,280	5,820	8,040	10,000	9,280	9,260
Manufacturing	160	140	140	220	260	220
Construction	520	440	660	1,020	1,220	840
Transportation, Communications, Electric, Gas, and Sanitary Services	300	300	340	440	360	420
Wholesale and Retail Trade	1,340	1,620	1,740	2,580	2,360	2,400
Finance, Insurance, and Real Estate	920	980	1,320	2,140	1,620	1,280
Services and Miscellaneous	1,140	1,200	2,360	2,380	2,120	2,460
Government	900	1,140	1,480	1,220	1,340	1,640
All Other Nonagricultural Employment	1,380	1,560	2,160	2,480	2,200	2,240
Agricultural Employment	260	260	260	260	260	240
DE SOTO COUNTY						
Nonagricultural Wage and Salary Employment	3,180	3,060	3,400	3,800	4,020	3,940
Manufacturing	400	380	280	400	380	300
Construction	20	20	80	100	200	160
Transportation, Communications, Electric, Gas, and Sanitary Services	60	80	60	80	100	100
Wholesale and Retail Trade	680	580	700	920	860	820
Finance, Insurance, and Real Estate	100	60	80	100	200	180
Services and Miscellaneous	340	280	300	340	260	260
Government	1,580	1,660	1,900	1,860	2,020	2,120
All Other Nonagricultural Employment	700	680	760	800	800	800
Agricultural Employment	880	880	900	880	840	780
HARDEE COUNTY						
Nonagricultural Wage and Salary Employment	2,000	2,180	2,540	2,660	2,920	2,820
Manufacturing	220	260	340	300	320	220
Construction	40	20	80	80	100	80
Transportation, Communications, Electric, Gas, and Sanitary Services	100	120	140	160	180	180
Wholesale and Retail Trade	640	700	780	840	920	840
Finance, Insurance, and Real Estate	100	100	120	120	140	160
Services and Miscellaneous	320	280	320	420	360	320
Government	580	700	760	740	900	1,020
All Other Nonagricultural Employment	1,240	1,400	1,600	1,580	1,620	1,600
Agricultural Employment	1,960	1,980	2,000	1,980	1,880	1,760
MANATEE COUNTY						
Nonagricultural Wage and Salary Employment	20,940	21,040	23,620	27,540	31,500	30,480
Manufacturing	5,000	4,600	4,860	5,760	6,120	4,780
Construction	1,580	1,440	1,780	2,500	3,480	1,980
Transportation, Communications, Electric, Gas, and Sanitary Services	500	600	680	800	780	840
Wholesale and Retail Trade	6,160	6,480	7,080	8,380	9,100	9,620
Finance, Insurance, and Real Estate	980	1,020	1,120	1,260	1,680	1,600
Services and Miscellaneous	2,980	3,160	3,620	4,240	4,960	5,260
Government	3,740	3,740	4,480	4,600	5,380	6,400
All Other Nonagricultural Employment	5,580	5,780	6,480	7,080	7,600	7,540
Agricultural Employment	1,920	1,820	1,840	1,820	1,520	680

Table 4.5. (Contd)

	March 1970	March 1971	March 1972	March 1973	March 1974	March 1975*
SARASOTA COUNTY						
Nonagricultural Wage and Salary Employment	36,820	38,480	42,060	50,000	51,220	46,780
Manufacturing	3,640	3,360	4,080	4,560	4,360	3,600
Construction	4,560	4,240	4,760	6,460	7,080	4,720
Transportation, Communications, Electric, Gas, and Sanitary Services	2,080	2,280	2,360	2,620	2,460	2,320
Wholesale and Retail Trade	11,020	11,840	12,600	14,680	14,480	14,080
Finance, Insurance, and Real Estate	2,560	2,720	3,020	3,700	4,120	3,900
Services and Miscellaneous	8,100	9,020	9,720	12,300	12,500	11,660
Government	4,860	5,020	5,520	5,680	6,220	6,500
All Other Nonagricultural Employment	7,660	8,260	9,000	10,020	9,640	9,040
Agricultural Employment	920	920	920	920	860	520
HILLSBOROUGH COUNTY ‡						
Total All Industries	171,500	174,400	192,800	219,200	230,400	219,300
Manufacturing	32,800	31,700	33,200	36,200	35,900	30,400
Nonmanufacturing	138,700	142,700	159,600	183,000	194,500	188,900
Construction	13,300	12,500	14,500	17,900	20,200	15,200
Transportation, Communications, Electric, Gas, and Sanitary Services	14,800	15,100	15,600	18,600	19,200	18,400
Trade	47,700	50,200	53,400	61,200	63,400	62,200
Finance, Insurance, and Real Estate	8,900	8.900	11,000	13,600	14,600	13,800
Services, Miscellaneous, and Mining	27,300	29,200	33,700	38,300	41,100	40,800
Government	36,700	26,800	31,400	33,400	36,000	38,500
POLK COUNTY ‡						
Total All Industries	76,000	76,600	82,000	91,200	98,700	100,800
Manufacturing	16,500	16,200	16,400	17,800	19,900	18,100
Mining	4,800	4,500	4,100	4,200	4,300	4,900
Construction	4,800	4,400	5,400	7,000	9,100	9,800
Transportation, Communications, Electric, Gas, and Sanitary Services	3,500	3,600	3,900	4,300	4,700	4,800
Trade	20,600	21,100	23,300	25,900	26,300	26,300
Finance, Insurance and Real Estate	3,800	3,800	4,000	4,500	5,000	4,700
Services, Miscellaneous	11,500	12,000	13,300	15,300	16,200	17,100
Government	10,500	11,000	11,600	12,200	13,200	15,100

†Florida Department of Commerce. Division of Employment Security, Research and Statistics. All estimates rounded to the nearest 20.

*Preliminary

**Nonagricultural wage and salary employment is estimate of number of jobs in an area summarized from reports submitted by firms subject to coverage by *Unemployment Compensation Law* and supplemented by survey of non-covered firms. It is a place-of-work series which is an indicator of industrial activity in the labor area.

‡Taken from annual *Report on Employment* made by Florida Department of Commerce to U.S. Bureau of Labor Statistics and not consistent with figures appearing elsewhere in this report or data for other counties appearing in this table.

Table 4.6. Labor Market by County, 1970-75†

	March 1970	March 1971	March 1972	March 1973	March 1974	March 1975*
Labor Force Series**						
CHARLOTTE COUNTY						
Total Population	27,600	29,400	30,700	36,060	39,840	42,200
Civilian Labor Force	7,100	7,680	11,560	12,760	12,340	14,020
Total Unemployment	180	360	400	380	680	1,700
Unemployment Rate***	2.7	4.8	3.5	3.0	5.5	12.1
Total Employment	6,920	7,320	11,160	12,380	11,660	12,320
DE SOTO COUNTY						
Total Population	13,100	13,200	14,180	15,860	17,660	18,200
Civilian Labor Force	4,820	4,720	5,100	5,380	5,820	6,400
Total Unemployment	120	160	120	60	220	580
Unemployment Rate	2.6	3.4	2.5	1.1	3.9	9.1
Total Employment	4,700	4,560	4,980	5,320	5,600	5,820
HARDEE COUNTY						
Total Population	14,900	15,200	16,100	16,980	18,080	18,520
Civilian Labor Force	6,200	6,740	7,220	7,160	8,320	7,220
Total Unemployment	180	220	180	80	360	300
Unemployment Rate	2.9	3.3	2.5	1.1	4.3	4.0
Total Employment	6,020	6,520	7,040	7,080	7,960	6,920
MANATEE COUNTY						
Total Population	97,100	100,500	106,240	108,200	117,640	123,500
Civilian Labor Force	30,800	31,400	33,520	37,740	42,840	46,720
Total Unemployment	820	1,200	940	1,000	1,580	4,880
Unemployment Rate	2.7	3.8	2.8	2.6	3.7	10.5
Total Employment	29,980	30,200	32,580	36,740	41,260	41,840
SARASOTA COUNTY						
Total Population	120,400	125,800	130,200	148,080	157,740	163,180
Civilian Labor Force	39,360	41,960	46,140	50,240	53,420	56,900
Total Unemployment	820	1,380	1,320	1,160	2,000	7,000
Unemployment Rate	2.1	3.3	2.8	2.3	3.7	12.3
Total Employment	38,540	40,580	44,820	49,080	51,420	49,900
HILLSBOROUGH COUNTY******						
Total Population	490,265	502,000	531,458	526,462	588,729	605,597
Civilian Labor Force	405,000	424,500	427,500	472,700	511,700	541,000
Total Unemployment	13,400	19,300	16,300	15,800	21,600	49,200
Unemployment Rate	3.3	4.5	3.8	3.3	4.2	9.1
Total Employment	391,600	405,200	411,200	456,900	490,100	491,800
POLK COUNTY******						
Total Population	228,026	233,000	249,035	258,515	268,343	275,973
Civilian Labor Force	94,800	98,100	93,900	100,100	109,100	120,100
Total Unemployment	4,900	7,000	5,900	5,600	6,000	8,800
Unemployment Rate	5.2	7.1	6.3	5.6	5.5	7.3
Total Employment	89,900	91,100	88,000	94,500	103,100	111,300

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†Florida Department of Commerce, Division of Employment Security, Research and Statistics. Estimates (rounded to nearest 20) prepared in accordance with methodology established by U.S. Department of Labor's Bureau of Labor Statistics.

**Labor force and employment estimates for 1970 forward have been changed from a work force basis to a labor force basis; labor force concept gives a better picture of the employment status of people living in a county, measuring employment by place of residence rather than by place of work. Employment by place of residence eliminates bias introduced by commuter patterns. Place-of-work figures tend to understate employment for most suburban areas that experience heavy out-commuting and to overstate employment in places where there is a large amount of commuting into the area (e.g. central cities). These data also adjusted to eliminate double counting of dual jobholders and to include persons having job attachments but not necessarily on payroll. All labor force figures adjusted to Current Population Survey, a household survey conducted by Bureau of Census under direction of Bureau of Labor Statistics.

***Unemployment rate based on unrounded data and not seasonally adjusted.

****Population data for Hillsborough and Polk counties taken from [illegible] and annual estimates by University of Florida (7-1). Hillsborough County labor figures are disaggregated Tampa-St. Petersburg SMSA figures.

Employment in government, services, transportation, communications, and electric, gas, and sanitary services helped keep the economy afloat during this period.

DeSoto shared Charlotte County's unfortunate experience, with large employment losses in construction, manufacturing, finance, insurance, and real estate, as well as declines in agricultural and trade employment. The only relief for DeSoto County from March 1974 to March 1975 was a 5-percent increase in the number of government employees.

Hardee and Hillsborough counties shared the same gloomy picture, with the only relief coming from increases in government employment. Sarasota fared much the same except that it also suffered a 39.5-percent loss in agricultural employment.

Manatee County lost employment in manufacturing, construction, finance, insurance, real estate, and agriculture but received significant increases in employment in government, trade, and services.

Oddly enough, as the nation, the state, and the other six counties approached their trough, Polk County made substantial employment gains. The unemployment rate, though 7.3 percent in March 1975, was still below five of the six other counties under discussion. Further, overall employment increased, with gains in mining, construction, services, and government. It can be inferred that the increase in construction and service employment was caused by the increase in mining activity and employment. Manufacturing and finance, insurance, and real estate suffered losses of employment, while employment in trade remained unchanged.

D. FACILITIES AND SERVICES

Facilities and services in the 7-county study area are provided and administered by the normal U.S. hierarchy of local, state, and federal levels of government. Included in this category are transportation; police and fire protection; water, wastewater, and solid waste; medical and public health; and education facilities and services.

1. Transportation

a. Highways

Automobiles and trucks are the primary means of passenger and freight movement in the 7-county region. Therefore, the number and condition of highways and roads are of special importance.

The major hard-surfaced highway network is shown in Plate 4 (in map pocket). Other roads are private and county routes.

b. Railroads and Airports

The Seaboard Coast Line provides rail freight service into and out of the study area. The phosphate industry has used rail freight service extensively in the past and probably will continue to use it heavily.

The major airport for the region is Tampa International, one of the most modern facilities in the nation. Several major airlines serve the area with frequent, scheduled flights daily. A number of general aviation airports in the study area provide service for smaller, unscheduled aircraft.

c. Tampa Harbor and Port

A channel from the Gulf of Mexico to Port Tampa and Tampa is 36 feet deep and 600 feet wide on Egmont Bar, 34 feet deep and 500 feet wide in Mullet Key Cut, 34 feet deep and 400 feet wide in Tampa and Hillsborough Bays and in Port Tampa, Sparkman, and Ybor Channels, and 30 feet deep and 300 feet wide in Seddon and Garrison. Extensive improvements have been authorized by the River and Harbor Act. Volume I provides details on shipments.

d. Gas Pipelines and Electric Facilities

These facilities are covered in Volume I.

2. Police and Fire Protection

Tables 4.7, 4.8, and 4.9 show the number of law-enforcement officers and firefighters by county. For comparison, the number of policemen and firefighters per thousand population is shown.

Table 4.7. Number of Law Enforcement Officers by County (per 1000 Population, July 1976)*

	Law Enforcement Officers**					
County	Unincorporated Areas per 1000 Pop.	Total	Municipal Areas per 1000 Pop.	Total	County Areas Total per 1000 Pop.	County Area Total
Charlotte	2.27	82	2.47	15	2.29	97
DeSoto	4.87	59	1.89	11	3.90	70
Hardee	2.86	33	2.21	15+	2.62	48
Hillsborough	3.56	1051	2.23	682	2.88	1733
Manatee	2.96	237	2.71	100	2.67	337
Polk	3.96	600	2.75	339‡	3.41	939
Sarasota	2.68	260	3.11	144	2.45	404

*Florida Department of Criminal Law Enforcement (1976)

**Law enforcement officers defined as sworn personnel
+Does not include Zolfo Springs.
‡Does not include Highland Park, Hillcrest Heights, and Polk City.

3. Water, Wastewater, and Solid Waste

Water resources are covered in Volume V of this study. Current costs for providing water, wastewater treatment, and refuse/solid waste services are shown in Tables 4.10 and 4.11.

Table 4.8. Number of Firefighters by County (per 1000 Population, July 1976)*

	Firefighters**					
County	Unincorporated Areas per 1000 Pop.	Total	Municipal Areas per 1000 Pop.	Total	County Area per 1000 Pop.	County Area Total
Charlotte	4.25	154	3.95	24	4.21	178
DeSoto	2.47	30	4.13	24	3.01	54
Hardee	-	-	7.65	52†	2.84	52
Hillsborough	2.54	750	2.10	642	2.32	1392
Manatee	0.06	5	3.02	139	1.14	144
Polk	3.75	568	3.65	451‡	3.70	1019
Sarasota	2.16	209	2.81	192	2.43	401

*Telephone interviews with fire officials, June 29, 1976.

**Volunteer and paid firefighters combined. See Table 4.9 for breakdown.
†Municipalities serve adjacent county areas.
‡Does not include firefighters for Highland Park and Hillcrest Heights.

Table 4.9. Volunteer and Paid Firefighters by County, 1976*

	Firefighters					
	Volunteers		Paid		Total	
County	Unincorp.	Munic.	Unincorp.	Munic.	Unincorp.	Munic.
Charlotte	150	18	4	6	154	24
DeSoto	30	16	0	8	30	24
Hardee	-	44	-	8	-	52
Hillsborough	700	12	50	630	750	642
Manatee	-	72	5	67	5	139
Polk	550	221+	18	230+	568	451
Sarasota	144	30	65	162	209	192

*Telephone interviews with fire officials, June 29, 1976.

+Does not include firefighters for Highland Park and Hillcrest Heights.

Table 4.10. Cost of Water and Wastewater Treatment by County (per Capita, July 1976)*

County	Water Treatment per Capita ($)	Total ($)	Wastewater Treatment per capita ($)	Total ($)	Water-Wastewater Treatment per Capita ($)	Total ($)
	Water and Wastewater Treatment†					
Charlotte	-	0	-	0	40.46	1,710,739
DeSoto	-	0	-	0	112.52	2,018,068
Hardee	2.50	45,876	6.86	125,598	4.32	79,178
Hillsborough	80.73	48,494,378	70.47	42,333,591	10.78	6,474,536
Manatee	-	0	-	0	199.53	25,173,124
Polk	5.52	1,518,496	6.82	1,877,298	45.51	12,518,701
Sarasota	25.06	4,135,524	2.39	394,076	-	0

*Florida Department of Banking and Finance (1976).

†Listed source defines wastewater treatment as sewer.

Table 4.11. Cost of Refuse/Solid-Waste Services by County (per Capita, July 1976)*

County	Per Capita ($)	Total ($)
Charlotte	42.83	1,810,850
DeSoto	1.13	20,307
Hardee	8.32	152,387
Hillsborough	16.80	10,094,625
Manatee	8.95	1,129,076
Polk	13.30	3,658,612
Sarasota	12.97	2,141,411

*Florida Department of Banking and Finance (1976).

4. Medical and Public Health

There are several first-class general hospitals in the region. These are augmented by numerous small clinics that mainly serve the retired and elderly population in the area. DeSoto and Hardee counties have a major shortage of facilities and medical personnel; however, these shortages can generally be overcome by travel to facilities in adjacent counties. Tables 4.12 and 4.13 show the number of hospital beds and medical personnel by county.

5. Education

Table 4.14 shows the ratio of students to teachers for each county in the region. Hillsborough has the largest ratio, with almost 23 students for each teacher, and Hardee and Sarasota the smallest ratio, with about 20 students per teacher. The desired ratio is normally considered to be no more than 15 students per teacher. Thus, there is evidence of a burden on the school system.

Table 4.12. Number of Hospital Beds by County (per 1000 Population, July 1976)*

County	Per 1000 Population	Total Beds
Charlotte	10.95	463
DeSoto	3.85	69+
Hardee	3.33	61
Hillsborough	4.56	2737
Manatee	5.75	726
Polk	6.77	1862
Sarasota	6.06	1000

*Florida Department of Health and Rehabilitative Services, Office of Licensure and Certification, December 31, 1976.

+Does not include state hospital located in county.

Table 4.13. Number of Medical Doctors, Osteopaths, Chiropractors by County (per 1000 Population, July 1976)*

County	Medical Doctors		Osteopaths		Chiropractors	
	Per 1000 Population	Total	Per 1000 Population	Total	Per 1000 Population	Total
Charlotte	1.75	74	0.05	2	0.17	7
DeSoto	1.56	28	0	0	0.17	3
Hardee	0.76	14	0	0	0.05	1
Hillsborough	1.59	956	0.08	47	0.12	70
Manatee	1.07	135	0.02	2	0.13	16
Polk	1.31	361	0.01	3	0.12	34
Sarasota	1.93	318	0.09	15	0.24	39

*Florida Department of Professionals, Division of Occupational Regulation, June 1, 1977.

Table 4.14. Student Enrollment/Classroom Teacher Ratios by County, 1975-76*

County	Student/Teacher Ratio numbers (percent)
Charlotte	5,697/279 (20.4/1)
DeSoto	3,621/175 (20.6/1)
Hardee	4,190/211 (19.8/1)
Hillsborough	113,634/4,951 (22.9/1)
Manatee	20,236/1,002 (20.1/1)
Polk	60,926/2,968 (20.5/1)
Sarasota	22,807/1,150 (19.8/1)

*Florida Department of Education, Division of Public Schools (1976).

SECTION 5
ECONOMIC CHARACTERISTICS

A. INTRODUCTION

This section provides an economic setting in which to view the phosphate mining industry. The current economic situation of the region is assessed and present trends reviewed. Relevant economic aggregates projected to the target horizon, the year 2000, are shown in Section 6. The discussion is organized around the two major points: current situation and present trends. The study area has no other common link except phosphate and so is not a natural region: it is made up of highly urban and very rural counties, some coastal and some inland. Together, however, the seven counties constitute a region that will be directly influenced by future phosphate mining; therefore, they are aggregated into a region for the purposes of study. The phosphate industry is thereby set into a regional economic context to provide insight into the economic role and scope of the industry. Also, the role and scope of other major industries are identified. The regional economy is a summation of all of the constituent sectors; viewing only one in isolation would be, at best, inaccurate and could well doom the analysis to error.

Economic activity in the region is the aggregation of consumption expenditures, investment expenditures, government expenditures, and value of goods exported from the region minus the value of goods imported into the region. Each involves the phosphate mining industry. The payroll of the industry, for example, is a basis for consumer expenditures: the industry invests in plants and equipment; the taxes it pays become the revenues that governments expend; the output is exported; and the economic activity generated by the industry begets imports. Of course, virtually all other industries in the region have the same sort of impact on the categories.

The growth of economic activity is a function of the growth of the constituent sectors of the economy: as industries expand their production, economic diversity diminishes. In reality, the economic history of any region is a history of the expansion and decline of its industries. This principle applies to the study area. As agriculture and tourism, the major historic sources of enonomic activity, have expanded, the region has grown economically. Frequently, the expansion of one industry has forced the contraction of another; urban industries and agriculture are typical examples. In such cases, the impact on the economy depends on whether the expansion of the growing industry is greater than the contraction of the declining industry. Over time, other industries migrate into the region to diversify the economic base. The study area today hosts many industries; however, agriculture and tourism are still the largest sectors of the economy.

A traditional industry in central Florida has been the mining of phosphate rock, and this industry has grown substantially because of increased demand for goods, primrily foods, that require phosphate-based inputs. According to all projections, this industry will continue to grow.

Concern has developed with respect to the compatibility of the phosphate industry's growth and other forms of economic activity.

B. CURRENT ECONOMIC CONDITIONS

This subsection examines the 1970 economic base of each county of the study area, the economy of each county since 1970, and economic conditions expected during the near future. Economic projections to the year 2000 are in Section 6. Comprehensive economic data on these counties since the 1973 recession are not yet available; hence, the probable impact of the national recession on local economies will be investigated in light of the 1970 economic base and the available data compared with expected results.

One common means of analyzing the economic base of an area is to use the "export-base model," which partitions economic activity in an area - in this case, a county - into two parts: (1) basic, or export activity, and (2) nonbasic, or local economic activity. Basic activities produce goods and services for consumption beyond the county's borders; part of the output of basic industries is the money they bring into the county by exporting goods and services. Nonbasic activities produce goods and services for local consumption only. The implication of this model is that the local economy is fueled by the basic sector; hence, if there is a decline in the demand for commodities produced for export, the entire local economy declines. The reverse is true for an increase in basic sector activity.

Basic industries are distinguished from nonbasic industries by the use of location quotients; these measure the concentration of an industry in a local area relative to the nation as a whole - more specifically, the percentage of local income earned in a particular industry divided by the percentage of national income earned in the same industry. If a greater percentage of county income is earned in coal mining, for instance, it is presumed that more coal is being mined in that county than its residents will consume; therefore, they must be exporting it.

Since income data are not readily available at the local level, base models are usually constructed with employment data as a proxy for income. To compute a location quotient, local employment in industry "X" is divided by total local employment; the resulting quotient is then divided by the ratio of national employment in industry "X" to total national employment. Symbolically, the location quotient formula is as follows:

$$\frac{LE_x/TLE}{NE_x/TNE} = \text{location quotient for industry "X"}$$

where

LE_x is local employment in industry "X"

TLE is total local employment

NE_x is national employment in industry "X"

TNE is total national employment

Values of location quotients greater than 1 indicate basic industries. The major assumption of the location quotient technique is that the nation is economically self-sufficient and ignores international trade. A community that is self-sufficient in coal, for example, will employ the same percentage of its labor force to produce coal as does the nation as a whole. Therefore, the location quotient technique is only as viable as this assumption; hence, some judgment must be exercised in interpreting the results. The technique's major advantage is that it produces a reasonably accurate approximation of the economic base of an area at a low cost when properly interpreted.

Table 5.1 contains the number of employees by industry in the study area for 1960 and 1970. Although the 1970 data are of primary interest, some information can be derived from the change in employment in industries over a 10-year period. Deltas (Δ) are therefore shown. The location quotients were computed using data from the 1960 and 1970 Censuses of Population.

1. Charlotte County

Using the location quotient technique on 1970 data, the following industrial categories were found to contain basic (exporting) industries:

- Agriculture, forestries, and fisheries
- Construction
- Food and dairy products
- Eating and drinking establishments
- Retail trade (other than food)
- Finance, insurance, and real estate
- Personal services (other than repair services)
- Utility and sanitary services
- Private households
- Hospitals

Table 5.1. Employme
1960 and

	Charlotte County			DeSoto County			Hardee County			Manatee County			Sarasota County	
	1960	1970	Δ*	1960	1970	Δ	1960	1970	Δ	1960	1970	Δ	1960	1970
Agriculture, forestry, fisheries	0.0290	0.0166	0.0124	0.1248	0.1667	0.0419	0.2401	0.3195	0.0794	0.0510	0.0357	0.0153	-0.0376	-0.0112
Mining	-0.0093	-0.0072	0.0021	-0.0101	-0.0082	0.0019	0.0084	0.0291	0.0207	-0.0086	-0.0059	0.0027	-0.0096	-0.0062
Construction	0.1445	0.0802	0.0643	0.0224	0.0268	0.0044	0.0099	-0.0053	0.0046	0.0642	0.0296	0.0346	0.0689	0.0513
Manufacturing	-0.2099	-0.2055	0.0687	-0.1999	-0.1872	0.0127	-0.2029	-0.1678	0.0351	-0.1602	-0.1182	0.0420	-0.1810	-0.1657
Furniture, lumber, wood products	-0.0105	-0.0050	0.0055	-0.0098	-0.0073	0.0025	-0.0084	-0.0030	0.0054	-0.0133	-0.0098	0.0135	-0.0115	-0.0060
Metal industries	-0.0299	-0.0316	0.0017	-0.0368	-0.0349	0.0019	-0.0380	-0.0349	0.0031	-0.0274	-0.0253	0.0021	-0.0333	-0.0258
Machinery, except electrical	-0.0232	-0.0196	0.0036	-0.0232	-0.0249	0.0017	-0.0200	-0.0222	0.0022	-0.0172	-0.0213	0.0041	-0.0193	-0.0194
Electrical machinery, equipment, and supplies	-0.0208	-0.0249	0.0041	-0.0144	-0.0027	0.0117	-0.0230	-0.0249	0.0019	-0.0190	-0.0208	0.0018	-0.0084	-0.0076
Transportation equipment	-0.0246	-0.0251	0.005	-0.0271	-0.0270	0.0001	-0.0281	-0.0261	0.0020	-0.0147	0.0065	0.0082	-0.0192	-0.0167
Other durable goods	-0.0051	-0.0088	0.0037	-0.0169	-0.0209	0.0040	-0.0203	-0.0212	0.0009	-0.0086	-0.0063	0.0025	-0.0055	-0.0114
Food and kindred products	-0.0211	-0.0146	0.0065	-0.0113	-0.0015	0.0098	0.0178	0.0290	0.0112	0.0086	-0.0151	0.0065	-0.0184	-0.0132
Textiles and fabricated textile products	-0.0327	-0.0272	0.0055	-0.0316	-0.0272	0.0044	-0.0327	-0.0285	0.0042	-0.0321	-0.0252	0.0069	-0.0293	-0.0260
Printing, publishing, and allied industries	-0.0064	-0.0058	0.0006	-0.0110	-0.0142	0.0032	-0.0131	-0.0134	0.0003	-0.0045	-0.0037	0.0008	0.0005	0.0027
Chemicals and allied products	-0.0098	-0.0117	0.0019	0.0081	-0.0015	0.0066	0.0107	-0.0033	0.0074	-0.0085	-0.0071	0.0014	-0.0115	0.0113
Other nondurable goods	-0.0016	-0.0261	0.0245	-0.0016	-0.0251	0.0235	0.0020	-0.0253	0.0233	0.0007	-0.0202	0.0195	-0.0007	0.0254
Railroad and railway express service	-0.0083	-0.0074	0.0009	-0.0071	-0.0026	0.0045	0.0087	-0.0076	0.0011	-0.0105	-0.0058	0.0047	-0.0135	0.0074
Trucking service and warehousing	-0.0015	-0.0052	0.0037	0.0009	-0.0091	0.0082	0.0042	-0.0045	0.0003	-0.0064	-0.0088	0.0024	-0.0092	0.0074
Other transportation	-0.0036	-0.0018	0.0018	-0.0081	-0.0090	0.0009	0.0103	-0.0056	0.0047	-0.0054	-0.0052	0.0002	-0.0082	-0.0070
Communications	-0.0105	-0.0010	0.0095	-0.0071	-0.0051	0.0020	0.0070	-0.0013	0.0057	-0.0053	-0.0016	0.0037	-0.0010	0.0033
Utility and sanitary service	-0.0002	0.0093	0.0091	-0.0043	0.0047	0.0004	0.0028	0.0065	0.0037	0.0003	0.0002	0.0001	0.0028	0.0020
Wholesale trade	-0.0178	-0.0231	0.0053	-0.0056	-0.0014	0.0042	0.0225	-0.0220	0.0005	-0.0033	-0.0091	0.0058	-0.0128	0.0124
Food and dairy product stores	0.0135	0.0142	0.0007	0.0031	0.0022	0.0009	0.0171	0.0110	0.0061	0.0062	0.0090	0.0028	0.0044	0.0045
Eating and drinking places	0.0277	0.0131	0.0146	-0.0113	-0.0168	0.0055	0.0128	-0.0151	0.0023	0.0092	0.0129	0.0037	0.0138	0.0146
Other retail trade	0.0368	0.0363	0.0005	-0.0001	-0.0387	0.0386	0.0047	-0.0082	0.0035	0.0333	0.0499	0.0166	0.0485	0.0607
Finance, insurance, real estate	0.0620	0.0694	0.0074	-0.0063	0.0044	0.0019	0.0135	-0.0205	0.0070	0.0088	0.0040	0.0048	0.0231	0.0233
Business and repair services	-0.0011	-0.0038	0.0027	-0.0142	-0.0203	0.0061	0.0085	-0.0125	0.0040	0.0036	0.0055	0.0019	0.0096	0.0097
Private households	-0.0001	0.0039	0.0038	0.0111	0.0063	0.0048	0.0041	0.0091	0.0050	0.0116	0.0107	0.0009	0.0762	0.0154
Other personal services	0.0124	0.0374	0.0250	0.0010	-0.0096	0.0086	0.0089	-0.0142	0.0053	0.0208	0.0169	0.0039	0.0345	0.0304
Entertainment and recreational services	-0.0037	-0.0012	0.0025	-0.0067	-0.0062	0.0005	0.0008	-0.0057	0.0049	0.0016	0.0033	0.0017	0.0136	0.0128
Hospitals	-0.0088	0.1664	0.1576	0.1355	0.1664	0.0309	0.0046	-0.0004	0.0042	-0.0051	-0.0069	0.0018	0.0058	-0.0004
Educational services														
Government	-0.0149	-0.0154	0.0005	-0.0028	-0.0154	0.0126	0.0057	-0.0033	0.0024	0.0016	0.0045	0.0029	0.0042	-0.0123
Private	-0.0111	-0.0142	0.0031	-0.0122	-0.0142	0.0020	0.0099	-0.0175	0.0076	-0.0063	-0.0090	0.0027	0.0017	-0.0044
Welfare, religion, and nonprofit memorial organizations	-0.0015	-0.0044	0.0031	-0.0012	-0.0044	0.0032	0.0003	-0.0033	0.0030	-0.0023	-0.0002	0.0021	0.0008	0.0024
Other professional and related services	0.0049	-0.0081	0.0032	-0.0123	-0.0081	0.0042	0.0146	-0.0045	0.0101	0.0028	-0.0003	0.0025	0.0146	0.0014
Public administration	-0.0113	-0.0093	0.0020	-0.0161	-0.0093	0.0068	0.0189	-0.0175	0.0014	-0.0197	-0.0033	0.0164	0.0179	0.0093
Industry not reported	-0.0171	-0.0017	0.0154	0.0264	-0.0017	0.0247	0.0198	-0.0290	0.0092	0.0185	0.0161	0.0024	0.0433	-0.0181
Health services except hospitals	-	-0.0101	0.0101	-	-0.0101	0.0101	-	-0.0094	0.0094	-	-0.0105	0.0105	-	0.0113

*Δ = change

A

Table 5.1. Employment by Industry, County, Region, and Nation for 1960 and 1970

Hardee County		Manatee County			Sarasota County			Hillsborough County			Polk County			Seven County Region		
1970	Δ	1960	1970	Δ	1960	1970	Δ	1960	1970	Δ	1960	1970	Δ	1960	1970	Δ
0.3195	0.0794	0.0510	0.0357	0.0153	-0.0376	-0.0112	0.0263	-0.0224	-0.0039	0.0187	0.0469	0.0729	0.0260	0.0070	0.0245	0.0175
0.0291	0.0207	-0.0086	-0.0059	0.0027	-0.0096	-0.0062	0.0034	-0.0032	-0.0013	0.0015	0.0380	0.0035	0.0045	0.0064	0.0063	0.0001
-0.0053	0.0046	0.0642	0.0296	0.0346	0.0689	0.0513	0.0176	0.0333	0.0222	0.0111	0.0239	0.0122	0.0117	0.0378	0.0213	0.0135
-0.1678	0.0351	-0.1602	-0.1182	0.0420	-0.1810	-0.1657	0.0153	-0.0883	-0.0842	0.0041	-0.1136	-0.0947	[illegible]	-0.1147	-0.1032	0.0015
-0.0030	0.0054	-0.0133	-0.0098	0.0135	-0.0115	-0.0060	0.0055	-0.0074	-0.0055	0.0019	-0.0119	-0.0084	0.0035	-0.0095	-0.0065	0.0030
-0.0349	0.0031	-0.0274	-0.0253	0.0021	-0.0333	-0.0258	0.0075	-0.0159	-0.0106	0.0053	-0.0241	-0.0250	0.0009	-0.0215	-0.0180	0.0035
-0.0222	0.0022	-0.0172	-0.0213	0.0041	-0.0193	-0.0194	0.0001	-0.0191	-0.0191	0.0000	-0.0201	-0.0156	0.0045	-0.0193	-0.0186	0.0007
-0.0249	0.0019	-0.0190	-0.0208	0.0018	-0.0084	-0.0076	0.0008	-0.0172	-0.0131	0.0041	-0.0223	-0.0239	0.0016	-0.0179	-0.0160	0.0019
-0.0261	0.0020	-0.0147	0.0065	0.0082	-0.0192	-0.0167	0.0025	-0.0212	-0.0183	0.0029	-0.0267	-0.0203	0.0064	-0.0221	-0.0169	0.0052
-0.0212	0.0009	-0.0086	-0.0063	0.0025	-0.0055	-0.0114	0.0059	-0.0072	-0.0073	0.0001	-0.0100	-0.0083	0.0017	-0.0082	-0.0083	0.0001
0.0290	0.0112	0.0086	-0.0151	0.0065	-0.0184	-0.0132	0.0052	0.0157	0.0133	0.0024	0.0568	0.0477	0.0091	0.0216	0.0183	0.0033
-0.0285	0.0042	-0.0321	-0.0252	0.0069	-0.0293	-0.0260	0.0033	-0.0252	-0.0207	0.0045	-0.0314	-0.0258	0.0056	-0.0280	-0.0232	0.0046
-0.0134	0.0003	-0.0045	-0.0037	0.0008	0.0005	0.0027	0.0022	-0.0058	-0.0041	0.0017	-0.0097	-0.0084	0.0013	-0.0063	-0.0052	0.0011
-0.0033	0.0074	-0.0085	-0.0071	0.0014	-0.0115	0.0113	0.0002	0.0050	0.0023	0.0027	0.0074	0.0078	0.0004	0.0025	0.0010	0.0015
-0.0253	0.0233	0.0007	-0.0202	0.0195	-0.0007	0.0254	0.0247	0.0343	-0.0012	0.0331	0.0026	-0.0144	0.0118	0.0185	-0.0097	0.0088
-0.0076	0.0011	-0.0105	-0.0058	0.0047	-0.0135	0.0074	0.0061	0.0006	0.0012	0.0006	-0.0001	0.0020	0.0019	-0.0022	-0.0005	0.0017
-0.0045	0.0003	-0.0064	-0.0088	0.0024	-0.0092	0.0074	0.0018	0.0020	0.0038	0.0018	0.0016	0.0031	0.0015	-0.0000	0.0009	0.0009
-0.0056	0.0047	-0.0054	-0.0052	0.0002	-0.0082	-0.0070	0.0012	0.0059	0.0024	0.0035	0.0080	-0.0081	0.0001	-0.0005	-0.0021	0.0016
-0.0013	0.0057	-0.0053	-0.0016	0.0037	-0.0010	0.0033	0.0023	0.0019	0.0069	0.0050	0.0034	0.0010	0.0024	-0.0008	0.0040	0.0032
0.0065	0.0037	0.0003	0.0002	0.0001	0.0028	0.0020	0.0008	0.0034	0.0039	0.0005	0.0034	-0.0029	0.0005	0.0011	0.0019	0.0008
-0.0220	0.0005	-0.0033	-0.0091	0.0058	-0.0128	0.0124	0.0004	0.0264	0.0344	0.0080	0.0198	0.0060	0.0138	0.0174	0.0166	0.000
0.0110	0.0061	0.0062	0.0090	0.0028	0.0044	0.0045	0.0001	0.0049	0.0046	0.0003	0.0029	0.0037	0.0008	0.0047	0.0050	0.0003
-0.0151	0.0023	0.0092	0.0129	0.0037	0.0138	0.0146	0.0008	0.0020	0.0050	0.0030	-0.0023	-0.0052	0.0029	0.0025	0.0038	0.0013
-0.0082	0.0035	0.0333	0.0499	0.0166	0.0485	0.0607	0.0122	0.0233	0.0137	0.0096	0.0058	0.0085	0.0027	0.0216	0.0199	0.0017
-0.0205	0.0070	0.0088	0.0040	0.0048	0.0231	0.0233	0.0002	0.0026	-0.0004	0.0022	0.0078	-0.0033	0.0045	0.0028	0.0029	0.0001
-0.0125	0.0040	0.0036	0.0055	0.0019	0.0096	0.0097	0.0001	0.0062	0.0074	0.0012	0.0034	-0.0040	0.0014	0.0032	0.0039	0.000
0.0091	0.0050	0.0116	0.0107	0.0009	[illegible]	0.0154	[illegible]	0.0079	0.0014	0.0065	0.0203	0.0101	0.0102	0.0130	0.0059	0.007
-0.0142	0.0053	0.0208	0.0169	0.0039	0.0345	0.0304	0.0041	0.0055	0.0041	0.0014	0.0016	0.0024	0.0008	0.0083	0.0078	0.000
-0.0057	0.0049	0.0016	0.0033	0.0017	0.0136	0.0128	0.0008	0.0017	0.0035	0.0018	0.0011	0.0024	0.0013	0.0025	0.0039	0.0014
-0.0004	0.0042	-0.0051	-0.0069	0.0018	0.0058	-0.0004	0.0054	-0.0051	-0.0071	0.0020	0.0072	-0.0026	0.0046	-0.0038	-0.0026	0.001
-0.0033	0.0024	0.0016	0.0045	0.0029	0.0042	-0.0123	0.0081	-0.0060	-0.0014	0.0046	0.0032	-0.0081	0.0049	-0.0046	-0.0048	0.000
-0.0175	0.0076	-0.0063	-0.0090	0.0027	0.0017	-0.0044	0.0027	-0.0048	-0.0053	0.0005	0.0050	0.0002	0.0048	-0.0024	-0.0047	0.00
-0.0033	0.0030	-0.0023	-0.0002	0.0021	0.0008	0.0074	0.0016	-0.0023	-0.0014	0.0009	0.0019	-0.0013	0.0006	0.0010	-0.0009	0.00
-0.0045	0.0101	0.0028	-0.0003	0.0025	0.0146	0.0014	0.0132	-0.0013	-0.0011	0.0002	0.0015	-0.0013	0.0002	-0.0023	-0.0010	0.000
-0.0175	0.0014	-0.0197	-0.0033	0.0164	0.0179	0.0093	0.0186	-0.0157	0.0020	0.0137	0.0175	-0.0047	0.0128	-0.0167	0.0007	0.016
-0.0290	0.0092	0.0185	0.0161	0.0024	0.0433	-0.0181	0.0252	-0.0215	-0.0106	0.0109	0.0027	-0.0195	0.0168	0.0181	-0.0141	0.004
-0.0094	0.0094	-	-0.0105	0.0105	-	0.0113	0.0113	-	0.0002	0.0020	-	-0.0023	0.0023		0.0013	0.001

B

It may cause the reader some confusion to consider construction or utility and sanitary services as exports, since it is not likely that Charlotte County physically transports these goods and services to places outside its borders. However, exporting takes on a special definition in the context of the economic base model: as long as the money that purchases a good or service emanates from outside the county, that good or service may be considered an export, even if no tangible product crosses the county borders. Under this definition, the basic (export) activities of Charlotte County make sense: while it is not likely that products of the construction industry (houses) or the product of utility and sanitary service firms can be physically exported, it is possible that the tourists and retirees who come to Charlotte County purchase houses and consume the services of the utility and sanitary service industry with money earned elsewhere.

Another disturbing entry on the list is "private households." Included in this classification are maids, yard maintenance laborers, and others. The positive location quotient for private households means that there is a greater portion of local employment in this industry in Charlotte County than one would expect if the entire nation were used as a norm. A relatively high level of local employment in this category is typical of tourist and resort areas; these people maintain second homes and provide other services to households during and after the tourist season. An analogous explanation applies to the export of personal services.

One useful way to analyze the export base of Charlotte County is to group its exporting industries by major category. For example, food and dairy product stores, eating and drinking establishments, other retail trade, other personal services, private households, and hospitals may be grouped in a tourist-retirement category. There is close relationship between tourism and retirement: often, former tourists are today's retirees. Again, it is reasoned that a large part of the money arriving with tourists and retirees is buying the products and services of the service industries in Charlotte County.

Closely related to tourism-retirement is another category, construction, which includes finance, insurance, and real estate, as well as utility and sanitary services. It is believed that retirement in Charlotte County is one of the principal causes of its population growth and thus the large amount of employment in construction and allied industries.

Using these categories, the export base of Charlotte County can be broken into three sectors - agriculture, construction, and tourism-retirement - which, according to Table 5.1, employed 5 percent, 29 percent, and 36 percent respectively in the county in 1970.

2. DeSoto County

DeSoto County experienced an important change in its economic base between 1960 and 1970. Thus, mention of the 1960 export base is a necessary prelude to evaluation of the 1970 base.

In 1960, the employment categories considered basic were agriculture, forestries, and fisheries; construction; chemicals and allied products; trucking services and warehousing; food and dairy products stores; private households; other personal services; and the state-operated G. Pierce Wood Memorial Hospital (a mental health institution). By 1970, this base had materially changed: chemicals and allied products, trucking service and warehousing, and personal services could no longer be considered basic, and there were two additional industries on the basic-sector list - utility and sanitary services; and finance, insurance, and real estate - which are closely associated with the construction industry. By 1970, 20 percent of local employment was in agriculture, 20 percent in the hospital category, and 16 percent in construction, while chemicals and allied products, as well as trucking service and warehousing, accounted for only 1 percent. (It should be noted that the construction industry in DeSoto County is not a function of tourism and retirement as it is in Charlotte County.)

3. Hardee County

The employment categories considered basic in Hardee County in 1970 were agriculture, forestries and fisheries; mining; food and kindred products manufacturing; utility and sanitary services; food and dairy products stores; private households; and furniture, lumber, and wood products manufacturing. Agriculture accounted for 36 percent of the county's employment, manufacturing for 9 percent, and mining for 4 percent; taken together, these three industries comprise 49 percent of the county's employment.

4. Hillsborough County

Employment categories considered basic in 1970 in Hillsborough County were construction; food and kindred products manufacturing; chemicals and allied products manufacturing; railroad and railway express services; trucking services and warehousing; other transportation services; communications; utility and sanitary services; wholesale trade; food and dairy products stores; eating and drinking establishments; retail trade other than food; business and repair services; private households; other personal services; entertainment and recreational services; health services except hospitals; and other professional and related services. The leading employer is the retail trade industry, which constituted approximately 18 percent of the total employment in 1970. Construction and wholesale trade were responsible for 8 percent each. In fact, trade, both wholesale and retail, is the foundation of the county's economy; together, wholesale and retail trade account for 26 percent of the county's total employment. Tampa, the major city, is a deep-water port connecting Hillsborough County (and the remainder of Florida) with other major ports such as Galveston and New Orleans via the Gulf of Mexico. Additionally, there are sophisticated rail, air, and truck transportation facilities.

Hillsborough County's other major export industries are manufacturing, transportation, and construction. Combined with trade, these industries form the bulk of the export base and provided 43 percent of the employment in Hillsborough County in 1970.

5. Manatee County

Employment categories considered basic in Manatee County in 1970 were agriculture, forestries, and fisheries; construction; food and kindred products manufacturing; transportation equipment manufacturing; utility and sanitary services; food and dairy products stores; eating and drinking establishments; retail trade other than food; finance, insurance, and real estate; business and repair services; private households; other personal services; entertainment and recreational services; health services except hospitals; and other professional and related services. The county's export base can be better understood if these industries are grouped in major sectors as follows:

- Agriculture
  agriculture, forestries, fisheries
- Manufacturing
  food and kindred products, transportation equipment
- Construction
  construction, utility, sanitary services
- Finance, insurance, and real estate
- Tourism-retail trade

Table 5.1 indicates that Manatee County's 1970 employment was apportioned into 14 percent manufacturing, 16 percent construction, and 33 percent tourism-retirement, which combine to constitute 63 percent of the county's 1970 employment.

6. Polk County

Employment categories that were considered basic in this county in 1970 were agriculture, forestries, and fisheries; mining; construction; food and kindred products manufacturing; chemicals and allied products manufacturing; trucking service and warehousing; railroads and railway express service; communications; wholesale trade; food and dairy products stores; retail trade other than food; private households; other personal services;

entertainment and recreational services; and private education services. Most of these activities fall into the following seven export categories:

- Trade

  food and dairy products stores, wholesale and retail trade other than food

- Agriculture

  agriculture, forestries, fisheries

- Manufacturing

  food and kindred products, chemicals, allied products

- Construction

- Mining

- Transportation

  railroads and railways express services, trucking, warehousing

- Private educational services

Together, these export industries accounted for 55 percent of Polk County's employment in 1970: trade, 19 percent; agriculture, 11 percent; manufacturing, 9 percent; construction, 7 percent; mining, 4 percent; transportation, 3 percent; and private education, 2 percent.

7. Sarasota County

Employment categories considered basic in Sarasota County in 1970 were construction; utility and sanitary services; food and dairy products stores; eating and drinking establishments; retail trade other than food; finance, insurance, and real estate; business and repair services; private households; other personal services; entertainment and recreational services; other professional and related services; communications; religious, welfare, and nonprofit membership organizations; and health services except hospitals.

Since a large portion of the county's residents are over 65, many of the export activities can be considered as part of a larger retirement industry. Thus, in Sarasota, as in Charlotte County, the economy is based on a closely interrelated tourism-retirement sector. Export activities that are part of this sector constituted nearly 59 percent of the employment in Sarasota County in 1970.

8. The Region

The major industries forming the economic base of the region are agriculture; construction; manufacturing; mining; trade (both retail and wholesale); transportation; tourism; and government. Collectively, agriculture and construction (the latter is closely related to tourism-retirement) constitute the most significant portion of the economic base; mining, however, is a significant industry, especially in Hardee and Polk counties, as is manufacturing. Mining, manufacturing, and agriculture derive their significance from the fact that they produce a physical product for export.

a. Industrial Mix

The region's industrial mix did not change substantially between 1960 and 1970 (see Table 5.2). Regional shifts were in accord with the national pattern except in construction: while the nation had a slight increase of 0.1 percent, the region declined 1.3 percent. Reflecting the stability, no new industrial categories were introduced, nor did any of the existing industries disappear. As indicated by Table 5.2, the region's industrial mix contrasted significantly with the nation's industrial mix ratio in the following aspects:

- There was only an 8.8 percent decrease in agriculture in contrast with a decrease of 44.8 pecent nationwide.
- The decrease in mining activity was just about half that experienced by the nation.
- While the construction industry ratio of the nation increased 1.7 percent, the region had a decrease of 13.4 percent.

- Manufacturing held steady in the region, while decreasing 4.4 percent nationally.
- Transportation decline was about the same for both the region and the nation.
- Wholesale trade increase nationally was almost double that of the region.
- Retail trade in the region compared favorably with that of the nation.
- Finance, insurance, and real estate were about the same nationwide and regionwide.
- Other industries in the region were about 6.4 percent below the national average.

Table 5.2. Industrial Mix in 7-County Region and U.S., 1960 and 1970

	Percentages					
	1960		1970		Δ/1960	
Industry Category	Region	U.S.	Region	U.S.	Region	U.S.
Agriculture	6.8	6.7	6.2	3.7	-8.8	-44.8
Mining	1.7	1.0	1.5	0.8	-11.8	-20.0
Construction	9.7	5.9	8.4	6.0	-13.4	1.7
Manufacturing	15.6	27.1	15.6	25.9	-0-	-4.4
Transportation	4.0	4.2	3.5	3.7	-12.5	-11.9
Wholesale trade	5.2	3.4	5.8	4.1	11.5	20.6
Retail trade	17.7	14.8	18.9	16.0	6.8	8.1
Finance, insurance real estate	4.5	4.2	5.3	5.0	17.8	19.1
Others	34.8	32.7	34.8	34.8	-0-	6.4

b. Tourism

The 7-county study area region has a substantial tourist industry. The state's largest single tourist attraction, Walt Disney World, is immediately adjacent to the area and exerts a strong influence. As indicated in Table 5.3, tourism has registered a slow but constant growth rate since 1970, with the exception of 1974, the year of the "gasoline crisis." State tourism is expected to grow slowly to 1980, with the average projected growth in number of tourists being 2 percent.

Table 5.3. Number of Tourists

Year	Florida (000,000)	Central Florida* (000,000)
1970	23.2	5.5
1971	23.2	NA
1972	24.2	NA
1973	25.2	5.6
1974	24.5	5.5
1975	27.1	NA
1976	28.0	NA

*Not the 7-county study area.

Tourist facilities are an excellent barometer of the vitality of the tourist economy. Table 5.4 indicates that tourism has been stagnant in the region. While food-service establishments have increased, this growth has, in all likelihood, been due to permanent population increase rather than tourism. Moreover, it must be noted that seating capacity has grown at a rate which is less than the rate of population increase.

While there does not appear to be a decline in tourism now or in the future, neither does there appear to be any growth or any potential for significant growth in the future. Thus, it appears that tourism will remain an important sector of the regional economy, as well as the state economy, but that growth must derive its impetus from other sectors.

Table 5.4. Tourist Facilities

	1972	1976	% Change
Hotels			
Number	45	44	-2.2
Units	4,211	4,320	2.6
Motels			
Number	639	624	-2.3
Units	20,078	20,033	-0.2
Food service establishments			
Number	2,647	3,183	20.2
Seating capacity	147,748	154,871	4.8

*University of Florida (1975, 1976).

C. MINING

1. Introduction

As shown in Table 5.1, mining in the 7-county region employed 4,453 workers in 1960 and 5,047 in 1970, an increase of 13.3 percent. Data supplied by the Florida Phosphate Council (Table 5.5) show approximately 2,000 more jobs for 1970 than does the census; however, the council is reporting all individuals employed by the mining companies, whereas the census is reporting only those individuals actively involved with mining. Employment has shown only moderate growth, while payroll has grown substantially. The divergence is due to the increased earnings of employees. Mining has experienced moderate growth in the recent past. Growth from 1960 to 1976 has tended to be rather constant in terms of employment at 1 percent per year. However, variations about the trend are significant. During this period, real income of employees has been increasing, while actual payrolls have been increasing at a substantial rate. It appears that mining has not played a significant role in the growth of the region since 1960. This fact, added to the slow growth of tourism and agriculture, indicates that growth has been driven by other industries--primarily services. It should be noted that this is the trend for the nation as a whole.

Table 5.5. Mining Employment and Employee Earnings in 7-County Study Area, 1967-76

Year	Employment	Payroll	Average Earnings	Price Index (1967=1.00)	Avg. Real Earnings
1967	8,048	$ 56,008	$ 6,959	100.0	$6,959
1968	7,309	55,588	7,605	104.2	7,298
1969	6,615	51,013	7,712	109.8	7,024
1970	7,065	55,781	7,895	116.3	6,788
1971	6,643	57,140	8,602	121.3	7,092
1972	6,673	62,357	9,345	125.3	7,458
1973	7,262	71,376	9,829	133.1	7,385
1974	8,067	87,576	10,856	147.7	7,350
1975	8,816	109,985	12,475	161.2	7,739
1976	8,837	119,250	13,494	170.5	7,914
% Change, 1967-76	9.8	112.9	93.9		13.7

2. Phosphate Mining

Phosphate mining is a major constituent of the regional economy and will play a significant role in any economic growth. The U.S. Bureau of Mines estimated in 1974 that:

- Each new job in the phosphate industry generates 6.155 other new jobs.
- Each dollar of income earned in the phosphate industry generates $3.363 dollars of other income.
- Each dollar of increased phosphate industry activity will generate $3.814 of other economic activity.

Independent investigations suggest that these magnitudes are reasonable. Calculation of the "employment multiplier" was 6.54, as contrasted with the 6.155 of the Bureau of Mines.

Tables 5.6 through 5.9 show employment and payroll of the phosphate industry in the study area and also the amounts of county and school taxes paid by the industry.

Table 5.6. Central Florida Phosphate Industry Employment, 1970-76*

Year	Employment	Million Tons**	Employment/1,000,000 Tons
1970	7065	28.3	249.6
1971	6643	--	--
1972	6673	32	208.5
1973	7262	34	213.6
1974	8067	35	230.5
1975	8816	39	226.0
1976	8837	40	220.9
Mean			224.85

*Florida Phosphate Council personal communication (1977).

**Metric

Table 5.7. Central Florida Phosphate Industry Payroll, 1967-76*

Year	Employment	Payroll (000)	Avg. Earnings	Price Index	Avg. real Earnings
1967	8,048	56,008	6,959	100.0	6,959
1968	7,309	55,588	7,605	104.2	7,298
1969	6,615	51,013	7,712	109.8	7,024
1970	7,065	55,781	7,895	116.3	6,788
1971	6,643	57,140	8,602	121.3	7,092
1972	6,673	62,358	9,345	125.3	7,458
1973	7,262	71,377	9,328	133.1	7,385
1974	8,067	87,576	10,856	147.7	7,350
1975	8,816	109,985	12,475	161.2	7,739
1976	8,837	119,250	13,494	170.5	7,914
Mean			9,477		7,301

*Florida Phosphate Council personal communication (1977).

Table 5.8. Phosphate Industry Ad Valorem Taxes Paid, 1972-76*

Year	County Ad Valorem Revenues	Production Tons (000,000)**	Revenues/ 1,000,000 Tons	Price Index	Real Revenue/ 1,000,000 Tons (1967 = 100)
1972	$5,174,586	32	$0.1617	125.3	$0.1291
1973	5,008,291	34	0.1473	133.1	0.1108
1974	4,040,700	35	0.1443	147.7	0.0977
1975	6,184,375	39	0.1586	161.2	0.0984
1976	8,466,411	NA			

*Florida Phosphate Council personal communication (1977).

**Metric

Table 5.9. Phosphate Industry School Taxes Paid, 1972-75*

Year	Ad Valorem Tax Revenues	Production Tons (000,000)**	Revenue/ 1,000,000 Tons	Price Index	Real Revenue/ 1,000,000 Tons (1967 = 100)
1972	$2,720,960	32	$0.085	125.3	$0.0679
1973	2,579,880	34	0.0759	133.1	0.057
1974	2,590,113	35	0.074	147.1	0.0501
1975	3,161,730	39	0.0811	161.2	0.0503
Mean					0.0563

*Florida Phosphate Council personal communication (1977).

**Metric

a. Employment

During 1970-76, the manpower per ton of mined phosphate rock was calculated from data supplied by the Florida Phosphate Council (Table 5.6). The 1970-76 average of 224.85 employees per 1,000,000 tons was applied to the period 1975-2000 (Tables 6.7 and 6.8).

b. Payroll

For 1967-76, the average payrolls in current-year and 1967 constant dollars were calculated (Table 5.7). The average of the 1967-76 period was employed for the 1975-2000 projections (Tables 6.7 and 6.8).

c. County Ad Valorem Tax Revenues

Data on ad valorem taxes paid to county governments from 1972 to 1976 were obtained from the Florida Phosphate Council (Table 5.8). The taxes were calculated on a per-million-ton basis and deflated to 1967 dollars. The real county ad valorem revenues per million tons were used to estimate the revenues from 1975 to 2000 (Table 6.7).

d. School Ad Valorem Tax Revenues

As with county ad valorem tax revenues, school tax data were obtained from the Florida Phosphate Council and calculated on a real per-million-ton basis (Table 5.9).

SECTION 6
PROJECTIONS

A. PROJECTIONS OF POPULATION AND INCOME

This section presents projections of population, personal income, per-capita income, and earnings by industry for the seven counties (Charlotte, DeSoto, Hardee, Hillsborough, Manatee, Polk, and Sarasota) and the regional total for 1980, 1985, 1990, and 2000. Three sets of population projections were used: the OBERS E* projections, which are usually the lowest; the OBERS EA* projections, which are usually considerably higher than the OBERS E; and the UF 208* projections, which are the highest. However, by the year 2000, the UF 208 projection for Sarasota is substantially smaller than the OBERS EA projection, and thus the regional total projected by UF 208 is less than the total projected by OBERS EA for that year.

The various population projections are summarized in Table 6.1, which also contains the University of Florida estimates of population by county in 1975. There were more than 1,250,000 persons in the seven counties in 1975. The low projection (OBERS E) forecasted an increase to about 1,750,000 by 2000, while the other two series forecasted a rise to about 2,200,000 inhabitants. Thus, the two high series predicted that the population of the seven counties would almost double in the last quarter of the twentieth century.

Almost half the total population of the seven counties lived in Hillsborough in 1975, and OBERS E predicted that Hillsborough would maintain this share to the year 2000 (Table 6.2). Polk with over one-fifth would also retain its share, but Sarasota would increase its share at the expense

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*OBERS is the Office of Business Economics of the Department of Commerce and the Economic Research Service of the Department of Agriculture. Since 1972, this agency has been known as the Bureau of Economic Analysis; however, the OBERS acronym is still accepted and used. OBERS E and OBERS EA assume different birth and immigration rates. UF 208 is the University of Florida 208.

Table 6.1. Alternative Population Projections (thousands) by County, 1980, 1985, 1990, 2000

	1975	1980			1985			1990			2000		
	UF*	OBERS E**	OBERS EA	UF 208*	OBERS E	OBERS EA	UF 208	OBERS E	OBERS EA	UF 208	OBERS E	OBERS EA	UF 208
Charlotte	42.2	39.8	56.0	56.5	42.1	70.4	70.9	44.6	88.6	85.8	47.0	140.3	119.1
Desoto	18.2	14.7	19.0	22.2	15.4	21.6	26.0	16.1	24.5	29.4	16.8	31.5	35.9
Hardee	18.5	16.5	21.0	21.9	16.9	23.2	25.3	17.2	25.6	28.6	17.7	31.2	35.5
Hillsborough--	605.6	624.2	642.3	691.6	677.0	703.2	757.4	734.4	759.8	810.6	836.9	887.0	907.9
Manatee	123.5	111.8	146.0	150.6	116.9	167.6	176.3	122.2	192.4	200.0	126.5	253.6	241.6
Polk	276.0	289.7	300.0	318.6	313.7	325.0	360.3	339.6	350.7	398.4	381.7	408.4	470.4
Sarasota	163.2	191.5	220.0	200.2	223.5	265.2	238.7	260.9	318.5	274.4	300.8	459.4	418.0
TOTAL	1247.1	1288.2	1404.3	1461.6	1405.5	1576.2	1654.9	1535.0	1760.1	1827.2	1727.4	2211.4	2152.2

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*University of Florida (1976).

**U.S. Water Resources Council (1972).

-U.S. Department of Commerce (1975).

-Derived assuming same percent growths, 1980-90

--OBERS projections derived from projections of Tampa SMSA using University of Florida shares

Table 6.2. Alternative Projections by County Shares (Percentages) in Regional Total Population

	1975	1980			1985			1990			2000		
COUNTY	UF	OBERS E	OBERS EA	UF 208	OBERS E	OBERS EA	UF 208	OBERS E	OBERS EA	UF 208	OBERS E	OBERS EA	UF 208
Charlotte	3.4	3.1	4.0	3.9	3.0	4.5	4.3	2.9	5.0	4.7	2.7	6.3	5.5
Desoto	1.5	1.1	1.0	1.5	1.1	1.4	1.6	1.1	1.4	1.6	1.0	1.4	1.7
Hardee	1.5	1.3	1.2	1.5	1.2	1.5	1.5	1.1	1.5	1.6	1.0	1.4	1.7
Hillsborough	48.6	48.5	44.4	47.3	48.2	44.6	45.8	47.8	43.2	44.4	48.5	40.1	42.2
Manatee	9.9	8.7	8.0	10.3	8.3	10.6	10.7	8.0	10.9	11.0	7.3	11.5	11.2
Polk	22.1	22.5	20.6	21.8	22.3	20.6	21.8	22.1	19.9	21.8	22.1	18.5	21.9
Sarasota	13.1	14.9	13.6	13.7	15.9	16.8	14.4	17.0	18.1	15.0	17.4	20.8	15.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

of the remaining four counties. Both the OBERS EA and UF 208 forecasted a decline of about 40 percent in Hillsborough's share. The University of Florida projections foresaw a constant share for Polk, but OBERS EA predicted a substantial decline. OBERS EA and UF 208 expected Charlotte and Manatee to gain.

Per-capita income in the seven counties is about 90 percent of the national aggregate, and OBERS E (the only series to project this figure) forecasted little change (Table 6.3). A decline in the excess of Sarasota's per-capita income above the national average would be balanced by moderate increases in the other counties. A slight decline in the employment participation rate was forecast by the year 2000, when one of every three inhabitants of the region would be employed. The participation rate would continue to be much higher in Hardee and much lower in Charlotte.

Table 6.3. Selected Projections from OBERS Series

	1980	1985	1990	2000
Charlotte				
Per capita Income ('000 1967 $)	3.5	4.1	4.7	6.5
Per capita Income Relative US (US=1.00)	0.74	0.76	0.77	0.79
Employment Population Ratio	0.26	0.26	0.26	0.26
DeSoto				
Per capita Income ('000 1967 $)	3.1	3.5	4.1	5.6
Per capita Income Relative US (US=1.00)	0.64	0.65	0.66	0.68
Employment Population Ratio	0.36	0.26	0.35	0.36
Hardee				
Per capita Income ('000 1967 $)	3.3	3.9	4.4	6.0
Per capita Income Relative US (US=1.00)	0.70	0.71	0.72	0.74
Employment Population Ratio	0.40	0.40	0.39	0.40
Hillsborough				
Per capita Income ('000 1967 $)	4.1	4.7	5.4	7.2
Per capita Income Relative US (US=1.00)	0.86	0.87	0.88	0.89
Employment Population Ratio	0.35	0.35	0.34	0.34
Manatee				
Per capita Income ('000 1967 $)	4.3	4.9	5.5	7.4
Per capita Income Relative US (US=1.00)	0.90	0.90	0.90	0.91
Employment Population Ratio	0.31	0.31	0.31	0.31
Polk				
Per capita Income ('000 1967 $)	4.3	4.9	5.5	7.3
Per capita Income Relative US (US=1.00)	0.90	0.90	0.90	0.90
Employment Population Ratio	0.37	0.36	0.35	0.35
Sarasota				
Per capita Income ('000 1967 $)	5.1	5.8	6.5	8.4
Per capita Income Relative US (US=1.00)	1.07	1.06	1.05	1.03
Employment Population Ratio	0.32	0.32	0.31	0.31
TOTAL				
Per capita Income* ('000 1967 $)	4.3	4.9	5.6	7.4
Per capita Income Relative US	0.90	0.90	0.91	0.91
Employment Population Ratio	0.35	0.34	0.33	0.33

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*Population weighted average of county projections

Earnings projections by industry consistent with each of the population series were also derived. These projections consistent with the OBERS E series were already available in published form. Equivalent forecasts consistent with the OBERS EA and UF 208 series were developed using three assumptions:

(1) The same employment participation rate would characterize the population projections from the OBERS EA and UF 208 series as was predicted on the basis of the OBERS E figures. Thus, the additional population projected by OBERS EA and UF 208 would contain the same proportion of employed workers as was contained in the OBERS E projection.

(2) Industry shares in total employment would remain the same regardless of which population projection was used. The industrial distribution of employment was therefore assumed to remain the same for each projection.

(3) Earnings per worker in each industry would remain the same for all projections.

On the basis of these assumptions, earnings in industry i consistent with population projection p in year t would be given by

$$\text{earnings}_{pt}^{i} = (\text{population}_{pt}) \times \left(\frac{\text{employment}_{\text{OBERS E } t}^{i}}{\text{population}_{\text{OBERS E } t}} \right) \times \left(\frac{\text{earnings}_{\text{OBERS E } t}^{i}}{\text{employment}_{\text{OBERS E } t}^{i}} \right)$$

where

p = OBERS E, OBERS EA, UF 208

t = 1980, 1985, 1990, 2000

i = industry

The results are given in Tables 6.4 through 6.6. Note that the components may not add to the total because of rounding.

Table 6.4. Employment, Income, and Earnings Projections from OBERS E Population Series, 1980, 1985, 1990, and 2000

Population OBERS E Year 1980	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	39.8	14.7	16.5	624.2	111.8	289.7	191.5	1288.2
Employment (000s)	10.4	5.3	6.6	218.5	35.2	107.1	61.4	444.5
Personal Income ($000,000 1967)	141.5	45.2	55.5	2578.4	481.2	1246.2	979.7	5527.7
Total Earnings	65.2	33.9	32.7	1670.2	240.6	913.3	482.5	3438.4
(1) Agriculture, Forestry, Fishery	0.4	5.1	13.0	22.7	19.5	119.0	4.0	183.7
-Agriculture	0.4	4.8	13.0	19.8	19.0	118.8	3.8	179.6
-Forestry & Fishing	0.0	0.2	0.0	2.9	0.4	0.1	0.1	3.7
(2) Mining	0.0	0.3	0.0	0.4	0.1	33.3	0.0	34.1
-Crude Petroleum & Gas	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.5
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.1	33.0	0.0	33.5
(3) Contract Construction	8.7	0.5	0.4	150.7	20.0	68.2	54.2	302.7
(4) Manufacturing	1.5	3.1	1.9	260.0	50.3	158.7	39.7	514.8
-Food	0.1	0.2	0.6	38.0	12.0	50.2	2.1	103.2
-Textiles	0.0	0.0	0.0	0.4	0.5	0.0	0.0	0.9
-Apparel	0.0	0.0	0.0	6.6	0.0	1.2	0.2	8.0
-Lumber	0.1	0.1	0.4	8.3	2.6	5.2	2.7	19.4
-Paper	0.0	0.0	0.2	6.8	0.2	6.3	0.3	13.8
-Printing	0.6	0.2	0.1	22.7	2.6	4.6	7.5	38.3
-Chemicals	0.0	0.5	0.3	16.5	2.0	30.4	0.6	50.3
-Petroleum Refining	0.0	0.0	0.0	1.8	0.0	0.0	0.0	1.8
-Primary Metals	0.0	0.0	0.0	6.8	0.3	0.6	0.0	7.7
-Fabricated Metals	0.0	0.0	0.0	40.6	3.4	8.1	6.7	58.8
-Nonelect. Machinery	0.0	0.1	0.0	11.8	1.1	10.3	3.7	27.0
-Electric Machinery	0.0	1.7	0.0	43.1	0.2	0.8	7.7	53.4
-Transport Equipment	0.0	0.0	0.0	17.6	13.0	12.0	2.9	45.4
(a)Motor Vehicles	0.0	0.0	0.0	0.3	4.2	2.8	0.0	7.3
(b)Other Transp. Eq.	0.0	0.0	0.0	17.3	8.8	9.2	0.0	35.3
-Other Manufacturing	0.5	0.0	0.1	38.3	12.0	28.4	4.6	83.9
(5) Transportation, Communications, etc.	3.9	0.5	2.1	135.2	6.9	52.1	22.8	223.5
(6) Trade	14.9	4.1	5.9	369.5	46.9	157.4	103.2	701.9
(7) Finance, Insurance, Real Estate	16.8	1.0	1.2	125.0	14.3	41.2	52.5	252.0
(8) Services	12.6	2.1	3.3	358.0	45.2	169.0	138.4	728.6
(9) Government	6.2	16.9	4.7	248.9	37.0	114.1	67.4	495.2
-Federal	0.8	0.4	0.5	49.1	3.2	10.8	7.4	72.2
-State and Local	5.1	16.4	4.0	167.8	32.8	100.5	58.3	384.9
-Army	0.2	0.1	0.1	31.9	1.0	2.8	1.5	37.6

Table 6.4. (Contd)

Population OBERS E Year 1985	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	42.1	15.4	16.8	677.0	116.9	313.7	223.5	1405.5
Employment (000s)	10.9	5.4	6.7	233.6	36.5	113.4	70.7	477.1
Personal Income ($000,000 1967)	173.2	54.6	65.2	3199.3	570.0	1532.4	1286.6	6881.3
Total Earnings	78.3	40.0	36.9	2007.9	285.0	1090.8	627.2	4166.1
(1) Agriculture, Forestry, Fishery	0.5	5.3	13.3	23.4	20.1	124.2	4.4	191.2
-Agriculture	0.5	5.0	13.3	20.1	19.6	123.5	4.2	186.1
-Forestry & Fishing	0.0	0.3	0.0	3.3	0.4	0.1	0.1	4.3
(2) Mining	0.0	0.3	0.0	0.4	0.1	35.0	0.0	35.7
-Crude Petroleum & Gas	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.5
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.1	34.7	0.0	35.1
(3) Contract Construction	10.2	0.6	0.5	175.9	23.5	80.2	67.8	358.8
(4) Manufacturing	1.9	3.8	2.2	307.1	61.9	192.2	48.4	617.6
-Food	0.1	0.3	0.6	42.8	13.5	58.3	2.6	118.1
-Textiles	0.0	0.0	0.0	0.5	0.6	0.0	0.1	1.2
-Apparel	0.0	0.0	0.0	7.8	0.0	1.4	0.2	9.4
-Lumber	0.1	0.2	0.5	9.8	3.2	5.8	3.2	22.8
-Paper	0.0	0.0	0.2	7.8	0.2	7.6	0.4	16.3
-Printing	0.8	0.3	0.1	27.3	3.2	5.7	9.5	46.9
-Chemicals	0.0	0.6	0.3	18.8	2.4	35.5	0.7	58.4
-Petroleum Refining	0.0	0.0	0.0	2.4	0.0	0.0	0.0	2.4
-Primary Metals	0.0	0.0	0.0	7.8	0.3	0.6	0.0	8.8
-Fabricated Metals	0.0	0.0	0.0	49.6	4.2	10.5	9.2	73.4
-Nonelect. Machinery	0.0	0.1	0.0	14.5	1.3	12.2	4.4	32.6
-Electric Machinery	0.0	2.1	0.0	49.6	0.2	1.0	8.6	61.6
-Transport Equipment	0.0	0.0	0.0	20.8	15.9	13.5	3.2	53.4
(a)Motor Vehicles	0.0	0.0	0.0	0.3	4.9	3.5	0.0	8.7
(b)Other Transp. Eq.	0.0	0.0	0.0	20.5	11.0	10.0	0.0	41.5
-Other Manufacturing	0.7	0.0	0.1	47.2	16.0	39.1	5.6	108.6
(5) Transportation, Communications, etc.	5.0	0.6	2.7	164.6	8.6	63.6	30.3	275.4
(6) Trade	16.8	4.6	6.7	428.0	52.8	180.0	131.2	820.1
(7) Finance, Insurance, Real Estate	21.0	1.3	1.5	158.1	17.9	49.9	72.1	321.7
(8) Services	15.1	2.5	3.9	446.0	54.1	215.6	182.7	919.8
(9) Government	7.6	20.7	5.7	303.0	45.1	147.5	89.5	619.2
-Federal	1.0	0.5	0.6	60.7	3.8	13.0	9.4	89.0
-State and Local	6.3	20.1	4.9	206.8	40.2	131.4	78.2	487.7
-Army	0.3	0.1	0.1	35.3	1.1	3.1	1.8	41.7

Table 6.4. (Contd)

Population OBERS E
Year 1990

	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	44.6	16.1	17.2	734.4	122.2	339.6	260.9	1535.0
Employment (000s)	11.4	5.6	6.7	249.7	37.8	120.0	81.3	512.5
Personal Income ($000,000 1967)	211.9	66.0	76.6	3976.5	675.2	1884.4	168.6	8580.2
Total Earnings	94.1	47.2	41.6	2418.0	337.6	1302.7	815.3	5056.5
(1) Agriculture, Forestry, Fishery	0.5	5.4	13.7	24.2	20.8	128.6	4.9	198.1
-Agriculture	0.5	5.1	13.7	20.4	20.2	128.4	4.6	192.9
-Forestry & Fishing	0.0	0.3	0.0	3.7	0.5	0.2	0.2	4.9
(2) Mining	0.0	0.3	0.0	0.4	0.1	36.7	0.0	37.5
-Crude Petroleum & Gas	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.5
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.1	36.4	0.0	36.9
(3) Contract Construction	12.0	0.8	0.6	205.7	27.7	94.4	84.9	426.1
(4) Manufacturing	2.5	4.7	2.6	364.0	76.1	232.7	59.1	741.7
-Food	0.1	0.3	0.7	48.3	15.1	67.6	3.2	135.3
-Textiles	0.0	0.0	0.0	0.5	0.7	0.0	0.1	1.3
-Apparel	0.0	0.0	0.0	9.2	0.0	1.6	0.2	11.0
-Lumber	0.1	0.3	0.6	11.5	4.0	6.4	3.9	26.8
-Paper	0.0	0.0	0.2	9.1	0.2	9.2	0.6	19.3
-Printing	1.1	0.3	0.2	32.8	4.2	7.1	12.1	57.8
-Chemicals	0.0	0.7	0.4	21.6	2.9	41.4	0.8	67.8
-Petroleum Refining	0.0	0.0	0.0	3.2	0.0	0.0	0.0	3.2
-Primary Metals	0.0	0.0	0.0	9.1	0.4	0.7	0.0	10.2
-Fabricated Metals	0.0	0.0	0.0	60.7	5.1	13.5	12.5	91.8
-Nonelect. Machinery	0.0	0.2	0.0	17.8	1.6	14.4	5.3	39.3
-Electric Machinery	0.0	2.6	0.0	57.3	0.3	1.3	9.6	71.1
-Transport Equipment	0.0	0.0	0.0	24.6	19.5	15.2	3.6	62.9
(a)Motor Vehicles	0.0	0.0	0.0	0.3	5.7	4.3	0.0	10.3
(b)Other Transp. Eq.	0.0	0.0	0.0	24.3	13.8	10.9	0.0	49.0
-Other Manufacturing	1.0	0.0	0.2	58.1	21.2	53.7	6.7	140.9
(5) Transportation, Communications, etc.	6.4	0.7	3.4	200.6	10.8	77.7	40.4	340.0
(6) Trade	18.9	5.2	7.5	496.7	59.5	205.8	166.8	960.4
(7) Finance, Insurance, Real Estate	26.2	1.6	1.8	200.4	22.4	60.5	98.9	412.0
(8) Services	18.0	2.9	4.6	556.4	64.8	275.1	241.1	1162.9
(9) Government	9.2	25.4	7.0	369.4	55.0	190.8	118.9	775.8
-Federal	1.2	0.6	0.8	75.1	4.5	15.6	11.9	109.7
-State and Local	7.7	24.6	5.9	255.2	49.2	171.7	104.8	619.1
-Army	0.3	0.1	0.1	39.1	1.2	3.5	2.1	46.4

Table 6.4. (Contd)

Population OBERS E Year 2000	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	47.0	16.8	17.7	836.9	126.5	381.7	300.8	1727.4
Employment (000s)	12.2	6.0	7.1	284.5	39.6	133.6	93.2	576.2
Personal Income ($000,000 1967)	303.6	93.7	107.4	6049.7	935.6	2805.4	2529.8	12825.2
Total Earnings	131.3	65.0	53.5	3463.6	462.7	1843.9	1311.5	7331.5
(1) Agriculture, Forestry, Fishery	0.7	6.0	15.1	27.2	23.0	143.6	6.0	221.6
-Agriculture	0.7	5.6	15.1	22.4	22.3	143.4	5.7	215.2
-Forestry & Fishing	0.0	0.4	0.0	4.8	0.7	0.2	0.2	6.3
(2) Mining	0.0	0.4	0.0	0.4	0.2	41.5	0.0	42.5
-Crude Petroleum & Gas	0.0	0.4	0.0	0.0	0.0	0.3	0.0	0.7
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.2	41.2	0.0	41.8
(3) Contract Construction	16.1	1.0	0.8	277.7	37.4	127.4	126.9	587.3
(4) Manufacturing	3.8	6.8	3.6	498.1	108.7	329.2	84.2	10311.4
-Food	0.1	0.4	0.8	60.3	18.5	87.5	4.5	172.1
-Textiles	0.0	0.0	0.0	0.7	1.0	0.0	0.1	1.8
-Apparel	0.0	0.0	0.0	12.3	0.0	2.0	0.3	14.6
-Lumber	0.2	0.4	0.9	15.6	5.8	7.6	5.2	35.7
-Paper	0.0	0.0	0.3	12.1	0.3	12.8	0.9	26.4
-Printing	1.7	0.5	0.4	46.0	6.5	10.6	18.3	84.0
-Chemicals	0.0	1.1	0.7	29.0	4.4	57.1	0.1	92.4
-Petroleum Refining	0.0	0.0	0.0	4.8	0.1	0.0	0.0	4.9
-Primary Metals	0.0	0.0	0.0	11.5	0.6	0.8	0.1	13.0
-Fabricated Metals	0.0	0.0	0.0	85.8	6.9	20.5	21.0	134.2
-Nonelect. Machinery	0.0	0.4	0.0	25.6	2.3	18.8	7.1	54.2
-Electric Machinery	0.0	3.8	0.0	78.8	0.4	2.0	12.2	97.2
-Transport Equipment	0.0	0.0	0.0	32.3	27.3	18.4	4.1	82.1
(a)Motor Vehicles	0.0	0.0	0.0	0.4	7.5	6.2	0.0	14.1
(b)Other Transp. Eq.	0.0	0.0	0.0	31.9	19.8	12.2	0.0	63.9
-Other Manufacturing	1.6	0.0	0.3	83.0	33.9	90.5	8.8	218.1
(5) Transportation, Communications, etc.	10.0	1.0	5.3	288.2	16.3	111.5	66.9	499.2
(6) Trade	23.9	6.5	9.5	678.7	75.1	270.6	261.6	1325.9
(7) Finance, Insurance, Real Estate	38.5	2.4	2.7	307.9	32.9	83.8	171.3	639.5
(8) Services	24.7	3.9	6.3	846.6	89.8	430.7	397.6	1800.0
(9) Government	13.2	36.6	10.0	538.7	78.8	305.2	196.7	1179.2
-Federal	1.6	0.8	1.1	110.5	6.2	21.5	18.0	159.7
-State and Local	11.1	35.5	8.6	379.4	71.0	279.1	175.6	960.3
-Army	0.4	0.1	0.2	48.8	1.4	4.5	2.9	58.3

Table 6.5. Employment, Income, and Earnings Projections from OBERS EA Population Series, 1980, 1985, 1990, and 2000

Population OBERS EA Year 1980	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	56.0	19.0	21.0	642.3	146.0	300.0	220.0	1404.3
Employment (000s)	14.6	6.8	8.4	224.8	45.3	111.0	70.4	481.3
Personal Income ($000,000 1967)	199.1	58.4	70.6	2653.2	628.4	1290.5	1125.5	6025.7
Total Earnings	91.7	43.8	41.6	1718.6	314.2	945.8	554.3	3710.1
(1) Agriculture, Forestry, Fishery	0.6	6.6	16.5	23.4	25.5	123.2	4.6	200.3
-Agriculture	0.6	6.2	16.5	20.3	24.8	123.0	4.4	195.9
-Forestry & Fishing	0.0	0.3	0.0	3.0	0.5	0.1	0.1	4.0
(2) Mining	0.0	0.4	0.0	0.4	0.1	34.5	0.0	35.4
-Crude Petroleum & Gas	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.6
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.1	34.2	0.0	34.7
(3) Contract Construction	12.2	0.6	0.5	155.0	26.1	70.6	62.3	327.4
(4) Manufacturing	2.1	4.0	2.4	267.1	65.7	164.3	45.6	551.3
-Food	0.1	0.3	0.8	39.1	15.7	52.0	2.4	110.3
-Textiles	0.0	0.0	0.0	0.4	0.7	0.0	0.0	1.1
-Apparel	0.0	0.0	0.0	6.8	0.0	1.2	0.2	8.3
-Lumber	0.1	0.1	0.5	8.6	3.4	5.4	3.1	21.2
-Paper	0.0	0.0	0.3	7.0	0.3	6.5	0.3	14.4
-Printing	0.8	0.3	0.1	23.4	3.4	4.8	8.6	41.4
-Chemicals	0.0	0.6	0.4	17.0	2.6	31.5	0.7	52.8
-Petroleum Refining	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.9
-Primary Metals	0.0	0.0	0.0	7.0	0.4	0.6	0.0	8.0
-Fabricated Metals	0.0	0.0	0.0	41.8	4.4	8.4	7.7	62.4
-Nonelect. Machinery	0.0	0.1	0.0	12.1	1.4	10.7	4.3	28.6
-Electric Machinery	0.0	2.2	0.0	44.3	0.3	0.8	8.8	56.4
-Transport Equipment	0.0	0.0	0.0	18.1	12.0	12.4	3.3	50.8
(a)Motor Vehicles	0.0	0.0	0.0	0.3	5.5	2.9	0.0	8.7
(b)Other Transp. Eq.	0.0	0.0	0.0	17.8	11.5	9.5	0.0	38.8
-Other Manufacturing	0.7	0.0	0.1	39.4	15.7	29.4	5.3	90.6
(5) Transportation, Communications, etc.	5.5	0.6	2.7	139.2	9.0	54.0	26.2	237.1
(6) Trade	21.0	5.3	7.5	380.2	61.2	163.0	118.6	756.8
(7) Finance, Insurance, Real Estate	23.6	1.3	1.5	128.7	18.7	42.7	60.3	276.8
(8) Services	17.7	2.7	4.2	368.4	59.0	175.0	159.0	786.1
(9) Government	8.7	21.8	6.0	256.1	48.3	118.2	77.4	536.6
-Federal	1.1	0.5	0.6	50.5	4.2	11.2	8.5	76.7
-State and Local	7.2	21.2	5.1	172.7	42.8	104.1	67.0	420.1
-Army	0.3	0.1	0.1	32.9	1.3	2.9	1.7	39.3

Table 6.5. (Contd)

Population OBERS EA Year 1985	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	70.4	21.6	23.2	703.2	167.6	325.0	265.2	1576.2
Employment (000s)	18.3	7.7	9.2	242.6	52.0	117.0	83.5	530.3
Personal Income ($000,000 1967)	289.3	76.7	89.8	3323.0	817.3	1587.8	1526.5	7710.4
Total Earnings	130.9	56.2	50.8	2085.5	408.7	1130.2	744.1	4606.3
(1) Agriculture, Forestry, Fishery	0.7	7.4	18.4	24.3	28.9	128.7	5.3	213.6
-Agriculture	0.7	6.9	18.4	20.8	28.1	128.0	5.0	208.0
-Forestry & Fishing	0.0	0.3	0.0	3.4	0.6	0.1	0.2	4.7
(2) Mining	0.0	0.4	0.0	0.4	0.1	36.2	0.0	37.2
-Crude Petroleum & Gas	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.6
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.1	35.9	0.0	36.4
(3) Contract Construction	17.1	0.9	0.7	182.7	33.7	83.1	80.5	398.7
(4) Manufacturing	3.2	5.4	3.1	319.0	88.7	199.1	57.5	676.0
-Food	0.2	0.3	0.9	44.5	19.3	60.4	3.1	128.6
-Textiles	0.0	0.0	0.0	0.5	0.8	0.0	0.1	1.5
-Apparel	0.0	0.0	0.0	8.1	0.0	1.4	0.2	9.8
-Lumber	0.2	0.2	0.7	10.2	4.6	6.0	3.9	25.7
-Paper	0.0	0.0	0.3	8.1	0.3	7.9	0.5	17.1
-Printing	1.4	0.3	0.2	28.3	4.6	5.9	11.3	52.1
-Chemicals	0.0	0.8	0.5	19.6	3.5	36.8	0.8	61.9
-Petroleum Refining	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.5
-Primary Metals	0.0	0.0	0.0	8.1	0.5	0.7	0.0	9.3
-Fabricated Metals	0.0	0.0	0.0	51.5	6.0	10.8	10.9	79.2
-Nonelect. Machinery	0.0	0.2	0.0	15.0	1.9	12.6	5.3	35.0
-Electric Machinery	0.0	3.0	0.0	51.5	0.4	1.1	10.2	66.1
-Transport Equipment	0.0	0.0	0.0	21.6	22.8	14.0	3.8	62.2
(a)Motor Vehicles	0.0	0.0	0.0	0.3	7.0	3.6	0.0	10.9
(b)Other Transp. Eq.	0.0	0.0	0.0	21.3	15.8	10.4	0.0	47.4
-Other Manufacturing	1.2	0.0	0.2	49.0	22.9	40.5	6.6	120.3
(5) Transportation, Communications, etc.	8.3	0.8	3.7	170.9	12.4	65.9	36.0	298.1
(6) Trade	28.0	6.5	9.2	444.6	75.7	186.5	155.7	906.2
(7) Finance, Insurance, Real Estate	35.1	1.8	2.0	164.3	25.7	51.7	85.5	366.0
(8) Services	25.2	3.5	5.4	463.2	77.6	223.4	216.7	1014.9
(9) Government	12.6	29.1	7.9	314.7	64.7	152.9	106.2	688.1
-Federal	1.6	0.7	0.9	63.0	5.4	13.4	11.1	96.3
-State and Local	10.5	28.2	6.7	214.8	57.6	136.1	92.7	546.6
-Army	0.4	0.1	0.1	36.7	1.6	3.2	2.1	44.3

Table 6.5. (Contd)

Population OBERS EA Year 1990	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	88.6	24.5	25.6	759.8	192.4	350.7	318.5	1760.1
Employment (000s)	23.1	8.6	10.0	258.3	59.6	122.7	98.7	581.0
Personal Income ($000,000 1967)	421.2	100.4	114.0	4114.2	1063.1	1946.0	2062.6	9821.6
Total Earnings	187.1	71.8	61.9	2501.7	531.5	1345.3	995.3	5694.6
(1) Agriculture, Forestry, Fishery	1.0	8.2	20.4	25.0	32.7	132.8	6.0	226.2
-Agriculture	1.0	7.8	20.4	21.1	31.8	132.6	5.6	220.3
-Forestry & Fishing	0.0	0.5	0.0	3.9	0.8	0.2	0.2	5.6
(2) Mining	0.0	0.5	0.0	0.4	0.2	37.9	0.0	38.9
-Crude Petroleum & Gas	0.0	0.5	0.0	0.0	0.0	0.2	0.0	0.7
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.2	37.6	0.0	38.1
(3) Contract Construction	23.9	1.2	0.9	212.8	43.6	97.5	103.6	483.5
(4) Manufacturing	5.0	7.2	3.9	376.8	119.8	240.3	72.1	824.9
-Food	0.2	0.5	1.0	50.0	23.8	69.8	3.9	149.2
-Textiles	0.0	0.0	0.0	0.5	1.1	0.0	0.1	1.8
-Apparel	0.0	0.0	0.0	9.6	0.0	1.7	0.2	11.5
-Lumber	0.2	0.5	0.9	11.9	6.3	6.6	4.8	31.1
-Paper	0.0	0.0	0.3	9.4	0.3	9.5	0.7	20.2
-Printing	2.2	0.5	0.3	33.9	6.6	7.3	14.8	65.5
-Chemicals	0.0	1.1	0.6	22.3	4.6	42.8	1.0	72.3
-Petroleum Refining	0.0	0.0	0.0	3.3	0.0	0.0	0.0	3.3
-Primary Metals	0.0	0.0	0.0	9.4	0.6	0.7	0.0	10.8
-Fabricated Metals	0.0	0.0	0.0	62.8	8.0	13.9	15.3	100.0
-Nonelect. Machinery	0.0	0.3	0.0	18.5	2.5	14.9	6.5	42.6
-Electric Machinery	0.0	4.0	0.0	59.3	0.5	1.3	11.7	76.8
-Transport Equipment	0.0	0.0	0.0	25.4	30.7	15.7	4.4	76.3
(a)Motor Vehicles	0.0	0.0	0.0	0.3	9.0	4.4	0.0	13.8
(b)Other Transp. Eq.	0.0	0.0	0.0	25.1	21.7	11.3	0.0	58.1
-Other Manufacturing	2.0	0.0	0.3	60.1	33.4	55.5	8.2	159.4
(5) Transportation, Communications, etc.	12.7	1.1	5.1	207.5	17.0	80.2	49.3	372.9
(6) Trade	37.6	7.9	11.2	513.9	93.7	212.5	203.6	1080.4
(7) Finance, Insurance, Real Estate	52.1	2.4	2.7	207.3	35.3	62.5	120.7	483.0
(8) Services	35.8	4.4	6.8	575.7	102.0	284.1	294.3	1303.2
(9) Government	18.3	38.7	10.4	382.3	86.6	197.0	145.2	878.4
-Federal	2.4	0.9	1.2	77.7	7.0	16.1	14.5	119.9
-State and Local	15.3	37.4	8.8	264.1	77.5	177.3	127.9	708.3
-Army	0.6	0.1	0.1	40.4	1.9	3.6	2.6	49.4

Table 6.5. (Contd)

Population OBERS EA Year 2000	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	140.3	31.5	31.2	887.0	253.6	408.4	459.4	2211.4
Employment (000s)	36.5	11.3	12.5	301.6	78.6	142.9	142.4	725.8
Personal Income ($000,000 1967)	906.5	175.8	189.1	6412.2	1875.3	3001.3	3863.6	16423.8
Total Earnings	392.0	122.0	94.2	3671.1	927.4	1972.7	2003.0	9182.4
(1) Agriculture, Forestry, Fishery	2.1	11.3	26.6	28.8	46.1	153.6	9.2	277.6
-Agriculture	2.1	10.5	26.6	23.7	44.7	153.4	8.7	269.7
-Forestry & Fishing	0.0	0.8	0.0	5.1	1.4	0.2	0.3	7.8
(2) Mining	0.0	0.8	0.0	0.4	0.4	44.4	0.0	45.9
-Crude Petroleum & Gas	0.0	0.8	0.0	0.0	0.0	0.3	0.0	1.1
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.4	44.1	0.0	44.9
(3) Contract Construction	48.1	1.9	1.4	294.4	75.0	136.3	193.8	750.8
(4) Manufacturing	11.3	12.8	6.3	527.9	217.9	352.2	128.6	1257.0
-Food	0.3	0.8	1.4	63.9	37.1	96.6	6.9	203.9
-Textiles	0.0	0.0	0.0	0.7	2.0	0.0	0.2	2.9
-Apparel	0.0	0.0	0.0	13.1	0.0	2.1	0.5	15.7
-Lumber	0.6	0.8	1.6	16.5	11.6	8.1	7.9	47.1
-Paper	0.0	0.0	0.5	12.8	0.6	13.7	1.4	29.0
-Printing	5.1	0.9	0.7	48.7	13.0	11.3	28.0	107.8
-Chemicals	0.0	2.1	1.2	30.7	8.8	61.1	0.2	104.1
-Petroleum Refining	0.0	0.0	0.0	5.1	0.2	0.0	0.0	5.3
-Primary Metals	0.0	0.0	0.0	12.2	1.2	0.9	0.2	14.4
-Fabricated Metals	0.0	0.0	0.0	91.0	13.8	21.9	32.1	158.8
-Nonelect. Machinery	0.0	0.8	0.0	27.1	4.6	20.1	10.8	63.4
-Electric Machinery	0.0	7.1	0.0	83.5	0.8	2.1	18.6	112.2
-Transport Equipment	0.0	0.0	0.0	34.2	15.0	19.7	6.3	114.9
(a)Motor Vehicles	0.0	0.0	0.0	0.4	107.6	6.6	0.0	22.1
(b)Other Transp. Eq.	0.0	0.0	0.0	33.8	39.7	13.1	0.0	86.6
-Other Manufacturing	4.8	0.0	0.5	88.0	67.9	96.8	13.4	271.5
(5) Transportation, Communications, etc.	29.8	1.9	9.3	305.5	32.7	119.3	102.2	600.7
(6) Trade	71.4	12.2	16.7	719.4	150.5	289.5	400.0	1659.2
(7) Finance, Insurance, Real Estate	115.0	4.5	4.8	326.3	65.9	89.7	261.6	867.7
(8) Services	73.7	7.3	11.1	897.3	180.0	460.8	607.2	2237.5
(9) Government	39.4	68.7	17.6	571.0	157.9	326.5	300.4	1481.5
-Federal	4.8	1.5	1.9	117.1	12.4	23.0	27.5	188.3
-State and Local	33.1	66.6	15.1	402.1	142.3	298.6	268.2	1226.1
-Army	1.2	0.2	0.4	51.7	2.8	4.8	4.4	65.5

Table 6.6. Employment, Income, and Earnings Projections from UF 208 Population Series, 1980, 1985, 1990, and 2000

Population UF 208 Year 1980	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	56.5	22.2	21.9	691.6	150.6	318.6	200.2	1461.6
Employment (000s)	14.7	8.0	8.8	242.1	46.6	117.9	64.1	502.2
Personal Income ($000,000 1967)	200.9	68.3	73.7	2856.8	646.9	1370.5	1024.2	6241.2
Total Earnings	92.6	51.2	43.4	1850.6	323.5	1004.4	504.4	3870.0
(1) Agriculture, Forestry, Fishery	0.6	7.7	17.3	25.1	26.2	130.9	4.2	211.9
-Agriculture	0.6	7.2	17.3	21.9	25.5	130.7	4.0	207.1
-Forestry & Fishing	0.0	0.3	0.0	3.2	0.5	0.1	0.1	4.2
(2) Mining	0.0	0.5	0.0	0.4	01.	36.6	0.0	37.6
-Crude Petroleum & Gas	0.0	0.5	0.0	0.0	0.0	0.2	0.0	0.7
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.1	36.3	0.0	36.8
(3) Contract Construction	12.4	0.8	0.5	166.9	26.9	75.0	56.7	339.1
(4) Manufacturing	2.1	4.7	2.5	287.6	67.6	174.5	41.5	580.6
-Food	0.1	0.3	0.8	42.1	16.1	55.2	2.2	116.9
-Textiles	0.0	0.0	0.0	0.5	0.7	0.0	0.0	1.1
-Apparel	0.0	0.0	0.0	7.4	0.0	1.3	0.2	8.9
-Lumber	0.1	0.2	0.5	9.2	3.5	5.7	2.8	22.1
-Paper	0.0	0.0	0.3	7.5	0.3	6.9	0.3	15.3
-Printing	0.9	0.3	0.1	25.2	3.5	5.1	7.8	42.9
-Chemicals	0.0	0.4	0.5	18.3	2.7	33.4	0.6	56.2
-Petroleum Refining	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0
-Primary Metals	0.0	0.0	0.0	7.5	0.4	0.7	0.0	8.6
-Fabricated Metals	0.0	0.0	0.0	45.0	4.6	8.9	7.0	65.5
-Nonelect. Machinery	0.0	0.2	0.0	13.0	1.5	11.3	3.9	29.9
-Electric Machinery	0.0	2.6	0.0	47.7	0.3	0.9	8.0	59.5
-Transport Equipment	0.0	0.0	0.0	19.4	17.4	13.2	3.0	53.1
(a)Motor Vehicles	0.0	0.0	0.0	0.3	5.6	3.1	0.0	9.0
(b)Other Transp. Eq.	0.0	0.0	0.0	19.1	11.8	10.1	0.0	41.1
-Other Manufacturing	0.7	0.0	0.1	42.5	16.1	31.2	4.8	95.5
(5) Transportation, Communications, etc.	5.5	0.8	2.8	149.8	9.3	57.3	23.8	249.3
(6) Trade	21.2	6.2	7.8	409.4	63.1	173.1	107.9	788.6
(7) Finance, Insurance, Real Estate	23.8	1.5	1.6	138.5	19.2	45.3	54.9	284.9
(8) Services	17.9	3.2	4.4	396.7	60.8	185.9	144.7	813.5
(9) Government	8.8	25.5	6.2	275.8	49.7	125.4	70.5	562.1
-Federal	1.1	0.6	0.7	54.4	4.3	11.9	7.7	80.7
-State and Local	7.2	24.8	5.3	186.0	44.1	110.5	61.0	438.9
-Army	0.3	0.2	0.1	35.4	1.3	3.1	1.6	41.9

Table 6.6. (Contd)

Population UF 208 Year 1985	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	70.9	26.0	25.3	757.4	176.3	360.3	238.7	1654.9
Employment (000s)	18.4	9.2	10.0	261.3	54.7	129.7	75.2	558.5
Personal Income ($000,000 1967)	291.4	92.3	97.9	3579.1	859.8	1760.3	1374.0	8054.7
Total Earnings	131.8	67.6	55.4	2246.2	429.9	1253.0	670.0	4853.7
(1) Agriculture, Forestry, Fishery	0.8	8.9	20.0	26.2	30.4	142.6	4.7	233.6
-Agriculture	0.8	8.4	20.0	22.5	29.5	141.9	4.5	227.5
-Forestry & Fishing	0.0	0.4	0.0	3.7	0.7	0.2	0.2	5.1
(2) Mining	0.0	0.5	0.0	0.4	0.2	40.2	0.0	41.2
-Crude Petroleum & Gas	0.0	0.5	0.0	0.0	0.0	0.2	0.0	0.7
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.2	39.8	0.0	40.4
(3) Contract Construction	17.2	1.1	0.7	196.7	35.5	92.2	72.4	415.9
(4) Manufacturing	3.3	6.5	3.3	343.6	93.3	220.7	51.7	722.4
-Food	0.2	0.4	1.0	47.9	20.3	66.9	2.7	139.4
-Textiles	0.0	0.0	0.0	0.5	0.9	0.0	0.1	1.5
-Apparel	0.0	0.0	0.0	8.8	0.0	1.6	0.2	10.6
-Lumber	0.2	0.3	0.7	11.0	4.9	6.6	3.5	27.1
-Paper	0.0	0.0	0.3	8.8	0.3	8.7	0.5	18.6
-Printing	1.4	0.4	0.2	30.5	4.9	6.6	10.2	54.1
-Chemicals	0.0	1.0	0.5	21.1	3.6	40.8	0.7	67.7
-Petroleum Refining	0.0	0.0	0.0	2.7	0.0	0.0	0.0	2.7
-Primary Metals	0.0	0.0	0.0	8.8	0.5	0.7	0.0	10.0
-Fabricated Metals	0.0	0.0	0.0	55.5	6.3	12.0	9.8	83.6
-Nonelect. Machinery	0.0	0.2	0.0	16.2	2.0	14.0	4.7	37.2
-Electric Machinery	0.0	3.6	0.0	55.5	0.4	1.2	9.2	69.8
-Transport Equipment	0.0	0.0	0.0	23.2	24.0	15.5	3.5	66.2
(a)Motor Vehicles	0.0	0.0	0.0	0.3	7.4	4.0	0.0	11.7
(b)Other Transp. Eq.	0.0	0.0	0.0	22.9	16.6	11.5	0.0	51.0
-Other Manufacturing	1.2	0.0	0.2	52.8	24.1	44.9	5.9	129.0
(5) Transportation, Communications, etc.	8.4	1.0	4.0	184.1	13.0	73.1	32.4	316.0
(6) Trade	28.2	7.8	10.0	478.9	79.7	206.7	140.1	951.4
(7) Finance, Insurance, Real Estate	35.3	2.1	2.2	176.9	27.0	57.4	76.9	377.9
(8) Services	25.3	4.2	5.9	499.0	81.6	247.7	195.1	1058.7
(9) Government	12.7	35.0	8.6	339.0	68.0	169.5	95.6	728.4
-Federal	1.6	0.8	0.9	67.9	5.7	14.9	10.0	102.0
-State and Local	10.5	33.9	7.3	231.3	60.6	150.9	83.5	578.1
-Army	0.4	0.2	0.2	39.5	1.7	3.6	1.9	47.4

Table 6.6. (Contd)

Population UF 208
Year 1990

	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	85.8	29.4	28.6	810.6	200.0	398.4	274.4	1827.2
Employment (000s)	22.3	10.3	11.2	275.5	62.0	139.4	85.1	605.8
Personal Income ($000,000 1967)	407.6	120.5	127.4	4387.1	1105.1	2210.7	1777.0	10136.0
Total Earnings	181.0	86.2	69.2	2667.9	552.5	1528.3	857.5	5942.6
(1) Agriculture, Forestry, Fishery	1.0	9.9	22.8	26.7	34.0	150.9	5.2	250.4
-Agriculture	1.0	9.3	22.8	22.5	33.1	150.6	4.8	244.1
-Forestry & Fishing	0.0	0.5	0.0	4.1	0.8	0.2	0.2	5.9
(2) Mining	0.0	0.5	0.0	0.4	0.2	43.1	0.0	44.2
-Crude Petroleum & Gas	0.0	0.5	0.0	0.0	0.0	0.2	0.0	0.8
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.2	42.7	0.0	43.3
(3) Contract Construction	23.1	1.5	1.0	226.9	45.3	110.7	89.3	497.8
(4) Manufacturing	4.8	8.6	4.3	401.6	125.5	273.0	62.2	879.1
-Food	0.2	0.5	1.2	53.3	24.7	79.3	3.4	162.6
-Textiles	0.0	0.0	0.0	0.6	1.1	0.0	0.1	1.8
-Apparel	0.0	0.0	0.0	10.2	0.0	1.9	0.2	12.3
-Lumber	0.2	0.5	1.0	12.7	6.5	7.5	4.1	32.6
-Paper	0.0	0.0	0.3	10.0	0.3	10.8	0.6	22.1
-Printing	2.1	0.5	0.3	36.1	6.9	8.3	12.7	67.1
-Chemicals	0.0	1.3	0.7	23.8	4.7	48.6	0.8	79.9
-Petroleum Refining	0.0	0.0	0.0	3.5	0.0	0.0	0.0	3.5
-Primary Metals	0.0	0.0	0.0	10.0	0.7	0.8	0.0	11.5
-Fabricated Metals	0.0	0.0	0.0	67.0	8.3	15.8	13.1	104.3
-Nonelect. Machinery	0.0	0.4	0.0	19.7	2.6	16.9	5.6	45.1
-Electric Machinery	0.0	4.7	0.0	63.2	0.5	1.5	10.1	80.1
-Transport Equipment	0.0	0.0	0.0	27.2	31.9	17.8	3.8	80.7
(a)Motor Vehicles	0.0	0.0	0.0	0.4	9.3	5.0	0.0	14.7
(b)Other Transp. Eq.	0.0	0.0	0.0	26.8	22.6	12.8	0.0	62.2
-Other Manufacturing	1.9	0.0	0.3	64.1	34.7	63.0	7.0	191.1
(5) Transportation, Communications, etc.	12.3	1.3	5.7	221.3	17.7	91.2	42.5	391.9
(6) Trade	36.4	9.5	12.5	598.1	97.4	241.4	175.4	1120.7
(7) Finance, Insurance, Real Estate	50.4	2.9	3.0	221.1	36.7	71.0	104.0	489.0
(8) Services	34.6	5.3	7.6	614.0	106.1	322.7	253.6	1343.9
(9) Government	17.7	46.4	11.6	407.7	90.0	233.8	125.1	922.3
-Federal	2.3	1.1	1.3	83.9	7.4	18.3	12.5	125.8
-State and Local	14.8	44.9	9.8	281.6	80.5	201.4	110.2	743.3
-Army	0.6	0.2	0.2	43.1	2.0	4.1	2.2	52.3

Table 6.6. (Contd)

Population UF 208 Year 2000	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota	TOTAL
Population (000s)	119.1	35.9	35.5	907.9	241.6	470.4	341.8	2152.2
Employment (000s)	31.0	12.9	14.2	308.7	74.9	164.6	106.0	712.3
Personal Income ($000,000 1967)	769.3	200.2	215.4	6563.1	1786.9	3457.3	2874.6	15866.8
Total Earnings	332.7	138.9	107.3	3757.5	883.7	2272.4	1490.3	8982.8
(1) Agriculture, Forestry, Fishery	1.8	12.8	30.3	29.5	43.9	177.0	6.8	302.1
-Agriculture	1.8	12.0	30.3	24.3	42.6	176.7	6.5	294.1
-Forestry & Fishing	0.0	0.9	0.0	5.2	1.3	0.2	0.2	7.9
(2) Mining	0.0	0.9	0.0	0.4	0.4	51.1	0.0	52.8
-Crude Petroleum & Gas	0.0	0.9	0.0	0.0	0.0	0.4	0.0	1.2
-Nonmetallic, excl.fuels	0.0	0.0	0.0	0.4	0.4	50.8	0.0	51.5
(3) Contract Construction	40.8	2.1	1.6	301.3	71.4	157.0	144.2	718.5
(4) Manufacturing	9.6	14.5	7.2	540.3	207.6	405.7	95.7	1280.7
-Food	0.3	0.9	1.6	65.4	35.3	107.8	5.1	216.4
-Textiles	0.0	0.0	0.0	0.7	1.9	0.0	0.1	2.8
-Apparel	0.0	0.0	0.0	13.4	0.0	2.5	0.3	16.2
-Lumber	0.5	0.9	1.8	16.9	11.1	9.4	5.9	46.4
-Paper	0.0	0.0	0.6	13.1	0.6	15.8	1.0	31.1
-Printing	4.3	1.1	0.8	49.9	12.4	13.1	20.8	102.3
-Chemicals	0.0	2.4	1.4	31.4	8.4	70.4	0.1	114.1
-Petroleum Refining	0.0	0.0	0.0	5.2	0.2	0.0	0.0	5.4
-Primary Metals	0.0	0.0	0.0	12.5	1.0	1.0	0.1	14.8
-Fabricated Metals	0.0	0.0	0.0	93.1	13.2	25.3	23.9	155.4
-Nonelect. Machinery	0.0	0.9	0.0	27.8	4.4	23.2	8.1	64.2
-Electric Machinery	0.0	8.1	0.0	85.4	0.7	2.4	13.9	110.7
-Transport Equipment	0.0	0.0	0.0	35.0	52.1	22.6	4.7	114.6
(a)Motor Vehicles	0.0	0.0	0.0	0.4	14.3	7.6	0.0	22.4
(b)Other Transp. Eq.	0.0	0.0	0.0	34.6	37.8	15.0	0.0	87.5
-Other Manufacturing	4.1	0.0	0.6	90.0	64.8	111.5	10.0	281.0
(5) Transportation, Communications, etc.	25.3	2.1	10.6	312.7	31.1	137.4	76.0	595.3
(6) Trade	60.6	13.9	19.1	736.3	143.4	333.5	297.3	1604.0
(7) Finance, Insurance, Real Estate	97.6	5.1	5.4	334.0	62.8	103.3	194.6	802.8
(8) Services	62.6	8.3	12.6	918.4	171.5	530.8	451.8	2156.1
(9) Government	33.4	78.2	20.1	584.4	150.4	376.1	223.5	1466.2
-Federal	4.1	1.7	2.2	119.9	11.8	26.5	20.5	186.6
-State and Local	28.1	75.9	17.2	411.6	135.6	344.0	199.5	1211.9
-Army	1.0	0.2	0.4	52.9	2.7	5.5	3.3	66.1

B. PROJECTED ECONOMIC GROWTH

Analysis of growth projections indicates that even the trend for growth will not result in full employment in the region by 1980. Restoration by 1985 appears possible, but this still requires substantial growth. Phosphate-related employment is projected to grow at approximately 2 percent per year to 1985 and to decline thereafter. Phosphate mining cannot be regarded, therefore, as a means of restoring full employment. However, the phosphate industry's failure to grow will make the task of attaining full employment that much more difficult.

The number of tourists in Florida is projected to grow at approximately 2 percent during the decade of the 1970s. Thus, tourist-related employment cannot be expected to grow at a rate higher than 2 percent. Moreover, agricultural employment is projected to decline at a projected 0.06 percent per year during the remainder of the 1970s. Thus, the three largest single industries of the Florida economy cannot be looked to as a means of attaining full employment by 1980.

As noted earlier, the service industry has been the most rapidly growing, both in Florida and the nation.

C. PHOSPHATE INDUSTRY PROJECTIONS

Phosphate production in Florida is described in Volume I. After reaching 47,000,000 to 48,000,000 tons per year in the mid-1980s, production will decline after 1990. The estimated rate of decline assumes that mining properties in central Florida, classified as potential new mines, will become active in the late 1980s or early 1990s.

The projected output of the Florida phosphate industry was converted into jobs and income to indicate the industry role in the projected economy. These projections are shown in Tables 6.7 and 6.8.

Table 6.7. Projected Phosphate Industry Jobs and Income, 1975-2000[†]

Year	Million Tons	Employment	Real Payroll (000)**	Real County Ad Valorem (000)**	Real School Tax (000)**
1975*	39.0	8,816	68,230	3,836	1,961
1980	45.0	10.107	73,791	4,900	2,531
1985	47.5	10,680	77,975	5,178	2,674
1990	44.9	10,096	73,711	4,894	2,528
1995	42.5	9,556	69,768	4,633	2,393
2000	40.0	8,994	72,966	4,360	2,252

[†] TI (1977).

*Actual values.

**All monetary values in 1967 dollars.

Table 6.8. Economic Impact of Phosphate on Region, 1975-2000

Year	Employment	Income*
1975	54,262	$ 229,457,490
1980	62,209	248,159,130
1985	65,735	262,229,920
1990	62,141	247,890,090
1995	58,817	234,629,780
2000	55,358	248,747,650

*Constant, 1967 dollars.

SECTION 7

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CHAPTER 3

EXISTING LAND USE

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SECTION 1

EXISTING LAND USE

A. INTRODUCTION

Existing land use in the 7-county area is an essential consideration in an environmental assessment: it reflects, and is influenced by, almost all forms of economic activity (e.g., residential, industrial, and transportation). Physical conditions also influence the existing land use. Geographically, any given land area has physical (site) and locational (situation) characteristics. Site aspects, for example, are the minerals under the land, the vegetation upon it, and the climate above it; the relationship of the particular land area to the rest of the earth's surface defines its situation (Platt 1976).

The spatial distribution of the different types of land use in the study area provides the setting for the interactions of physical, social, and economic elements of the existing environment.

Legally, land is characterized by the nature of its ownership and the rules under which it may be used. Therefore, the way in which land is ultimately used is determined by both its geographical and legal characteristics (Platt 1976). Major topics in this volume (description of land use patterns, land use planning, and administrative and regulatory land use controls) emphasize the relationship between land use and the legal and geographical factors affecting the study area.

B. METHODOLOGY AND INFORMATION SOURCES

The methods of collecting and classifying land use data affect the value of its application: inconsistent classification and categorization reduce the compatibility and comparability of the data. The only inventory of the study area's land use utilizing a standard classification system was high-level infrared photographic reconnaissance sponsored by the state of Florida in December 1972 and in January 1973. The imagery was classified using a multilevel land use classification system developed by the United States Geological Survey (Anderson et al 1976). Table 1.1 illustrates two levels (I and II) of classification, which are detailed in Appendix 1; Levels III, IV, and V are more detailed in scope and require substantial amounts of supplemental land use information as well as larger-scale airphotos than are commonly used by national, regional, or state planning agencies. The USGS Land Use Data and Analysis (LUDA) program produced the land use and land cover maps used as the information base for this report. The 1:250,000 scale and use of classification Levels I and II were controlled largely by aircraft height during the reconnaissance mission. The LUDA maps employed a minimum mapping unit, or a minimum-area recording size, of 4 hectares (10 acres). The unit is a minimum-area measure defined in terms of the dimensions of any land use at mapping scale. A land use occupying a smaller total area (in this case, less than 10 acres) would not be mapped as a distinct land use but would be merged with an adjacent use in the most logical manner possible (Weidel and Kleckner 1974).

Review of literature reveals that the most complete and comprehensive study of existing land use in the study area is the Four River Basins Area Economic Base Study, Water Resources Management Study (U.S. Army Corps of Engineers 1976). TI's use of this document as a primary information source was consistent with the EPA's goal of maximizing use of existing information. This study, using the U.S. Geological Survey Land Use and Land Cover Maps, inventoried existing land use in all seven counties of the study area. The USGS categories of land use were slightly modified for the Four River Basins study to provide a more appropriate classification for the area (see Table 1.2), but the tabulation of land use data was derived mainly from the USGS maps.

As a part of the overall program objective of validating the adequacy of information sources, TI confirmed the accuracy of the Four River Basins study tabulations by selecting one land use category ("Orchards, Groves, Vineyards, Nurseries, and Ornamental Horticultural Areas") and tabulating the percentage of the entire county (using a grid planimeter) in that category on the USGS land use and land cover maps (scale, 1:250,000) in each of the seven counties. Results confirmed the accuracy of the Four River Basins study. TI's percentages varied less than 1 percent from those of the Four River Basins study.

Table 1.1. Classification System for Land Use and Cover*

Level I	Level II
1 Urban or Built-Up Land	11 Residential
	12 Commercial and Services
	13 Industrial
	14 Transportation, Communications, Utilities
	15 Industrial and Commercial Complexes
	16 Mixed Urban or Built-Up Land
	17 Other Urban or Built-Up Land
2 Agricultural Land	21 Cropland and Pasture
	22 Orchards, Groves, Vineyards, Nurseries, Ornamental Horticultural Areas
	23 Confined Feeding Operations
	24 Other Agricultural Land
3 Rangeland	31 Herbaceous Rangeland
	32 Shrub and Brush Rangeland
	33 Mixed Rangeland
4 Forest Land	41 Deciduous Forest Land
	42 Evergreen Forest Land
	43 Mixed Forest Land
5 Water	51 Streams and Canals
	52 Lakes
	53 Reservoirs
	54 Bays and Estuaries
6 Wetland	61 Forested Wetland
	62 Nonforested Wetland
7 Barren Land	71 Dry Salt Flats
	72 Beaches
	73 Sandy Areas other than Beaches
	74 Bare Exposed Rock
	75 Strip Mines, Quarries, Gravel Pits
	76 Transitional Areas
	77 Mixed Barren Land
8 Tundra	81 Shrub and Brush Tundra
	82 Herbaceous Tundra
	83 Bare Ground Tundra
	84 Wet Tundra
	85 Mixed Tundra
9 Perennial Snow or Ice	91 Perennial Snowfields
	92 Glaciers

*Anderson et al (1976).

Table 1.2. Modified Level I/Level II Land Use Classification

Level I/Level II
Urban or Built Up
Residential
Commercial and services
Industrial
Transportation, communications, utilities
Industrial and commercial complexes
Mixed urban or built-up areas
Other urban or built-up areas
Agricultural Land
Cropland and pasture
Orchards, groves, vineyards, nurseries, ornamental horticultural areas
Other agricultural land
Rangeland
Forest Land
Water
Wetland
Barren Land
Strip mines, quarries, gravel pits
Other barren land

C. LAND USE PATTERNS

Land use in the study area is projected best through an overview (U.S. Army Corps of Engineers 1976) of existing land use by county, tables indicating land use area in hectares and acres by county, and maps (Plates 5 and 6 in map pocket) illustrating existing land use. Plate 4, major highways, (in map pocket) is useful for orientation and application of information in the county descriptions.

1. Charlotte County

Charlotte County's current pattern of development is oriented primarily toward the coast, although recent trends have been along major transportation arteries. Historically, the principal attraction for development has been the abundant shoreline along the Gulf of Mexico and Charlotte Harbor. Geographically, the county can be divided into three areas: from the Myakka River west to the Gulf of Mexico; north and west of the Peace River to the Myakka; and south and east of the Peace River.

The major development centers in the area west of the Myakka River are Englewood and Grove City along Lemon Bay on the Gulf Coast. Other communities include Charlotte Beach, Placida, and the new town of Rotunda to the southeast of Grove City. These are generally residential and tourist-oriented communities with associated supporting commercial facilities. Tourism is indicative of the area's economic base.

Port Charlotte is the principal development center at the confluence of the Myakka and Peace rivers, and other communities within the area are El Jobean, Charlotte Harbor, and Harbour Heights. Port Charlotte and Charlotte Harbor are by far the most populous, containing approximately half of the entire county population. Primarily, all commercial and industrial activity in the area has developed along U.S. 41, which provides direct access to the southwest Florida market. The proposed alignment of I-75 through the northeastern section of this area will encourage continuing industrial and commercial growth, thereby accelerating further urbanization of Port Charlotte.

The principal development center in the area south and east of the Peace River is the county seat, Punta Gorda. Other communities, relatively rural, include Peace River Shores, Cleveland, and Tropical Gulf Acres. Generally, all of these communities are of residential origin but have some tourism and associated activity. Industrial and commercial development in the area has been confined to Punta Gorda and the Airport Industrial Park located along U.S. 17 and 41. If the proposed alignment of I-75 South (to parallel U.S. 41) becomes a reality, this transportation corridor will continue to attract diversified forms of development.

Land use in Charlotte County in 1975 is generalized in Table 1.3.

2. DeSoto County

DeSoto County's economic base and primary use of land is agricultural (Table 1.4); in fact, more than half of the county's land area is used for the production of beef cattle, crops, or citrus. As a result of this extensive amount of agricultural activity, less than 1 percent of the county is urbanized.

Table 1.3. Generalized Land Use, Charlotte County, 1975*

Applicable LUDA Levels Level I/Level II	Area Hectares	(Acres)	Percent of County
Urban or Built Up			
Residential	2,412.0	(5,960)	1.65
Commercial and services	142.9	(353)	0.10
Industrial	34.8	(86)	0.02
Transportation, communications, and utilities	318.5	(787)	0.22
Industrial and commercial complexes	-	-	-
Mixed urban or built-up areas	124.6	(308)	0.09
Other urban or built-up areas	741.4	(1,832)	0.51
Agricultural Land			
Cropland and pasture	7,377.7	(18,230)	5.04
Orchards, groves, vineyards, nurseries, and ornamental horticultural areas	3,351.3	(8,281)	2.26
Other agricultural land	-	-	-
Rangeland	54,251.7	(134,054)	37.04
Forest Land	5,471.1	(13,519)	3.74
Water	30,474.3	(75,301)	20.81
Wetland	21,585.9	(53,338)	14.74
Barren Land			
Strip mines, quarries, and gravel pits	146.1	(361)	0.10
Other barren land	20,033.9	(49,503)	13.68
County Total	146,466.2	(361,913)	100

*The southeastern one-third (approximate) of Charlotte County was outside the Four River Basins study area. Tabulations include only those portions of the county within the study area.

Table 1.4. Generalized Land Use, DeSoto County, 1975

Applicable LUDA Levels Level I/Level II	Area Hectares	(Acres)	Percent of County
Urban or Built Up			
Residential	1,091.5	(2,697)	0.67
Commercial and services	756.4	(1,869)	0.46
Industrial	17.4	(43)	0.01
Transportation, communications, and utilities	226.2	(559)	0.14
Industrial and commercial complexes	-	-	-
Mixed urban or built-up areas	264.7	(654)	0.16
Other urban or built-up areas	36.8	(91)	0.02
Agricultural Land			
Cropland and pasture	51,116.0	(126,306)	31.33
Orchards, groves, vineyards, nurseries, and ornamental horticultural areas	24,215.0	(59,835)	14.84
Other agricultural land	-	-	-
Rangeland	52,609.8	(129,997)	32.24
Forest Land	2,788.0	(6,889)	1.71
Water	607.5	(1,501)	0.37
Wetland	29,119.4	(71,953)	17.85
Barren Land			
Strip mines, quarries, and gravel pits	-	-	-
Other barren land	326.2	(806)	0.2
County Total	163,174.9	(403,200)	100

Arcadia, the county seat and only urban area in the county, is located on U.S. 17, which runs north-south, paralleling the Peace River. Other small communities supporting the primarily agricultural activities are scattered throughout the county.

Most of the commercial and industrial enterprises, which are primarily restricted to the urban and business center of Arcadia, are retail businesses associated with residential development. Some highway-oriented commercial uses are present along U.S. 17, but there are no shopping centers in outlying and rural areas. To the southeast of Arcadia along S.R. 13 is the large G. Pierce Wood Memorial Hospital, which is oriented toward retirees. Another major public facility in the county is the DeSoto Correctional Institution on S.R. 70 east of Arcadia.

The remaining land area in DeSoto County is occupied primarily by rangelands and wetlands.

3. Hardee County

Like its neighbor DeSoto, Hardee County is primarily agricultural. This is indicative of its economic base. Citrus, cattle, and cropland comprise approximately half of the entire land area in the county (Table 1.5); because of this, development is rather limited and less than 1 percent of the county is urbanized. The urban areas are centered along U.S. 17, paralleling the Peace River. The three incorporated areas are Bowling Green; Wauchula, the county seat; and Zolfo Springs. Other small communities catering to agricultural activities are scattered throughout the county.

Commercial and industrial land uses are restricted to the three urban areas but primarily to Wauchula; thus, the latter represents the most densely developed area, where commercial convenience centers have become more evident in response to residential growth. Even within the corporate limits, however, there are still large areas of open space.

Generally, other areas of Hardee County are occupied primarily by rangelands or wetlands.

Table 1.5. Generalized Land Use, Hardee County, 1975

Applicable LUDA Levels Level I/Level II	Area		Percent of County
	Hectares	(Acres)	
Urban or Built Up			
Residential	1,419.3	(3,507)	0.87
Commercial and services	118.6	(293)	0.07
Industrial	67.2	(166)	0.04
Transportation, communications, and utilities	229.1	(566)	0.14
Industrial and commercial complexes	-	-	-
Mixed urban or built-up areas	-	-	-
Other urban or built-up areas	27.5	(68)	0.02
Agricultural Land			
Cropland and pasture	41,672.4	(102,971)	25.54
Orchards, groves, vineyards, nurseries, and ornamental horticultural areas	27,972.9	(69,120)	17.14
Other agricultural land	-	-	-
Rangeland	58,569.4	(144,723)	35.89
Forest Land	4,572.7	(11,299)	2.90
Water	383.7	(948)	0.24
Wetland	28,091.0	(69,412)	17.22
Barren Land			
Strip mines, quarries, and gravel pits	-	-	-
Other barren land	51.8	(128)	0.03
County Total	163,175.6	403,201	100

4. Hillsborough County

The existing development pattern in Hillsborough County (Table 1.6) is by far the most diverse in the study area. It ranges from the intense urban development in Tampa, the county seat, to the agricultural and mining activities in the eastern portions of the county.

Table 1.6. Generalized Land Use, Hillsborough County, 1975

Applicable LUDA Levels Level I/Level II	Area		Percent of County
	Hectares	(Acres)	
Urban or Built Up			
Residential	32,557.3	(80,448)	11.75
Commercial and services	3,482.0	(8,604)	1.26
Industrial	3,946.6	(9,752)	1.42
Transportation, communications, and utilities	2,365.1	(5,844)	0.85
Industrial and commercial complexes	320.1	(791)	0.12
Mixed urban or built-up areas	3,962.0	(9,790)	1.43
Other urban or built-up areas	4,723.7	(11,672)	1.71
Agricultural Land			
Cropland and pasture	91,391.4	(225,825)	32.99
Orchards, groves, vineyards, nurseries, and ornamental horticultural areas	26,084.5	(64,454)	9.42
Other agricultural land	-	-	-
Rangeland	63,503.9	(156,916)	22.92
Forest Land	15,962.6	(39,443)	5.76
Water	4,764.1	(11,772)	1.72
Wetland	17,495.2	(43,230)	6.32
Barren Land			
Strip mines, quarries, and gravel pits	3,143.3	(7,767)	1.13
Other barren land	3,315.3	(8,192)	1.2
County Total	277,017.1	(684,500)	100

Hillsborough County has primarily formed into five concentric zones, with Tampa at the center. The historical development zones and their salient characteristics are as follows (Tampa Bay Regional Planning Council):

Zone	Characteristic	Associated Activity
1	Central business district	Some wholesaling
2	Residential deterioration	Small business and light industry
3	Lower middle class residential	Small commercial business
4	Middle class residential	Business subcenters
5	Commuter zone, dormitory residential areas	Outlying cities and towns

There are two major variances from this development pattern. First, Hillsborough Bay and Old Tampa Bay break the circularity of the zones at two points. The second variance is one of economy in the port and industrial area to the southwest of Tampa.

Recent additions to the highway system and development influences from sources outside the county are forcing a departure from the pattern of concentric zones to linear expansion along major transportation corridors (I-75 North, I-75 South, I-4 East, and S.R. 580 West).

Primarily influencing development along the I-75 North corridor are the University of South Florida, several industrial and commercial complexes, and the desire for residential developments along the area's many scenic lakes. Principal development centers along the corridor include Temple Terrace, Nowatney, and Lutz (all considered to be in Zone 5). With the exception of a large industrial and commercial complex adjacent to the university, development in this area has been primarily residential. Also evident are associated commercial support facilities (e.g., shopping centers).

The I-75 South corridor provides access to the last expanse of developable waterfront in Hillsborough County. Other development influencing this corridor includes the industrial area of Tampa to the north and the industrializing Port Manatee to the south. Although several large residential projects are underway, industry will not become prominent until the I-75 bypass is at least under construction.

The I-4 East corridor is really two subcorridors. With the exception of established development centers (e.g., Plant City), growth along I-4 itself is primarily a response to the Disney World development in the Orlando area. Increased traffic has created a demand for highway service facilities and accommodations in the corridor. Expanded or new industrial development is a result of the corridor's transportation advantages to Florida's market areas.

Development in the S.R. 60 subcorridor primarily reflects the expansion of the southwest Tampa industrial area; however, this portion of the county recently underwent rapid residential development in response to those employed in southwest Tampa and Brandon.

Along S.R. 580 West are the Tampa International Airport, which attracts industrial and commercial activity to the surrounding areas as well as the Old Tampa Bay shoreline and activity in Pinellas County. Residential development as recreational and bedroom communities is becoming more prevalent.

5. Manatee County

Manatee County's existing development pattern is oriented toward the coast and centered along U.S. 301 and 41 in the western portion of the county. Intense urban development (Table 1.7) begins in Palmetto and continues south through Bradenton (the county seat) into Sarasota County; this is primarily the Bradenton urban area, which also extends east and west along the Manatee River. As in Sarasota County, the offshore islands are intensely developed. Except for the small, agriculturally oriented communities of Myakka City, Manhattan, and Parrish, which serve as convenience centers for rural areas, the eastern portions of the county are primarily underdeveloped.

Historically, the major area of development in Manatee County has been and continues to be the Bradenton urban area. Within this area, however, there are three rapidly developing centers:

- The area north of Palmetto along U.S. 19 and 41. Residential development, primarily influenced by access to major transportation facilities and therefore development pressures from external forces such as Pinellas County, has resulted from the amenities associated with the offshore islands along U.S. 19.

A second area of growth is associated with U.S. 41, which flows from Hillsborough County south through Manatee to Sarasota County. Primary development centers include Port Manatee and the proposed I-75 bypass. Rapid expansion to compete with industrial ports in Hillsborough County has attracted several large industrial developments. Further impetus for industrial and commercial development has been the proposed I-75 alignment, which will accelerate development in the entire western section of the county.

- The area west of Bradenton. The primary reason for growth west of Bradenton has been the desire for residential development near the Gulf of Mexico. Limited access to major transportation facilities makes this area ideal for this type of development.

- The area southeast and south of Bradenton. This is the last major area of rapid development in the county. U.S. 41, U.S. 301, the Sarasota-Bradenton Airport, and industrial parks along U.S. 301 have historically influenced growth in this area, and a mixture of residential, commercial, and industrial land uses has been achieved because of its varied potential. Situated along the major north-south transportation corridor and having access to the proposed I-75, this area has the potential for intense development.

Table 1.7. Generalized Land Use, Manatee County, 1975

Applicable LUDA Levels Level I/Level II	Area		Percent of County
	Hectares	(Acres)	
Urban or Built Up			
Residential	7,743.5	(19.134)	3.85
Commercial and services	968.9	(2,394)	0.48
Industrial	607.9	(1,502)	0.3
Transportation, communications, and utilities	301.9	(746)	0.15
Industrial and commercial complexes	120.6	(298)	0.06
Mixed urban or built-up areas	484.4	(1,197)	0.24
Other urban or built-up areas	5,212.9	(12,881)	2.59
Agricultural Land			
Cropland and pasture	55,212.0	(136,427)	27.48
Orchards, groves, vineyards, nurseries, and ornamental horticultural areas	9,047.5	(22,356)	4.52
Other agricultural land	-	-	-
Rangeland	95,237.6	(235,329)	47.4
Forest Land	3,639.1	(8,992)	1.81
Water	5,897.3	(14,572)	2.94
Wetland	10,988.0	(27,151)	5.47
Barren Land			
Strip mines, quarries, and gravel pits	80.9	(200)	0.04
Other barren land	5,372.8	(13,276)	2.67
County Total	200,915.3	(496,455)	100

6. Polk County

Polk County's existing land use pattern, like Hillsborough's, is one of the most diverse in the study area. As generalized in Table 1.8, it ranges from intense residential and commercial development along I-4 and U.S. 17 in the central portion of the county to agricultural activity and phosphate mining in the northern and southern portions, respectively.

Table 1.8. Generalized Land Use, Polk County, 1975*

Applicable LUDA Levels Level I/Level II	Area		Percent of County
	Hectares	(Acres)	
Urban or Built Up			
Residential	21,887.8	(54,084)	6.58
Commercial and services	2,137.6	(5,282)	0.64
Industrial	5,353.8	(13,229)	1.61
Transportation, communications, and utilities	1,799.7	(4.447)	0.54
Industrial and commercial complexes	-	-	-
Mixed urban or built-up areas	201.9	(499)	0.06
Other urban or built-up areas	1,107.3	(2,736)	0.33
Agricultural Land			
Cropland and pasture	55,324.9	(136,706)	16.64
Orchards, groves, vineyards, nurseries, and ornamental horticultural areas	44,932.6	(111,027)	13.53
Other agricultural land	-	-	-
Rangeland	45,593.9	(112,661)	13.71
Forest Land	24,515.1	(60,576)	7.37
Water	24,484.4	(60,500)	7.36
Wetland	59,627.3	(147,337)	17.93
Barren Land			
Strip mines, quarries, and gravel pits	41,579.7	(102,742)	12.5
Other barren land	3,977.4	(9,828)	1.2
County Total	332,523.4	(821,654)	100

*The eastern one-third (approximate) of Polk County was outside the Four River Basins study area. Tabulations include only those portions of the county within the study area.

The primarily agricultural northern portion of the county is essentially north of I-4. As in many other Florida counties, agricultural uses consist of citrus, beef cattle, and crop production. Since wetland areas are quite extensive in the northeast, most of the agricultural activity is concentrated in the northcentral area. Residential and associated commercial support facilities are concentrated in Gibsonia opposite Lakeland along I-4 and in Providence along U.S. 98. The area's industrial activity is minimal, consisting of small pockets of phosphate and limerock mining spread throughout.

The central portion, which is bounded by the two east-west highways I-4 and S.R. 60, contains Polk County's major urban centers, Lakeland and Winter Haven along U.S. 92 and Bartow (the county seat) and Lake Wales along S.R. 60. Other communities in the immediate area include Haines City and Mulberry. The dominant use of land in these urban areas is residential, with associated commercial facilities. Commercial uses are primarily retail businesses concentrated in the central business districts, although there are some highway-oriented commercial facilities. In this portion of the county, industrial uses are associated with agriculture and some phosphate activities. Industries are generally restricted to the urban areas, and some phosphate processing plants are west of Bartow. Agricultural uses are dispersed and vary between citrus and crop production.

In the area south of S.R. 60, phosphate and agricultural activities compete for dominance. As in the north, agriculture consists of citrus (primarily east of the Peace River), beef cattle, and crop production. The phosphate activity envelops the Peace River as it flows south along U.S. 17 from its headwaters at Lake Hancock. Phosphate mining and associated industrial activity dominate the entire southwestern corner of the county. The major residential community is Ft. Meade. Other small communities throughout this portion of the county primarily support the agricultural and phosphate activities; small commercial uses are generally concentrated in these communities.

7. Sarasota County

Sarasota County's existing development pattern (Table 1.9) is coastal-oriented and centered around existing transportation arteries. Development in the northwestern section around Sarasota (the county seat) is by far the most extensive. Other concentrations of urban development include the two coastal cities of Venice and Englewood, as well as North Port, which is located along Charlotte Harbor. These four development centers are located along U.S. 41, which generally runs north and south throughout the county. Historically, these have been the most rapidly developing areas.

Increasing development pressures have caused urban expansion from Sarasota east toward the proposed I-75 alignment. The growth pattern between Sarasota and Venice has resulted in corridor development along

U.S. 41; this arterial highway provides access and a major transportation facility for the area, while the shoreline provides the incentive for development. Other development pressures have been experienced by the North Port Charlotte area, although generally this area has continued as a residential community.

Industrial development has been confined primarily to the northwestern section of the county and has been centered along U.S. 301, extending north into Manatee County. As the southwest Florida market increases, industrial development in this and other areas of Sarasota County will also increase.

Completion of the proposed I-75 is an important aspect of future development in Sarasota County, as in Manatee and Hillsborough counties; this highway will accelerate the urbanization of many areas while improving the inter- and intraregional transportation system.

Table 1.9. Generalized Land Use, Sarasota County, 1975

Applicable LUDA Levels Level I/Level II	Area		Percent of County
	Hectares	(Acres)	
Urban or Built Up			
Residential	12,233.7	(30,229)	7.6
Commercial and services	1,132.4	(2,798)	0.7
Industrial	330.6	(817)	0.21
Transportation, communications, and utilities	2,218.6	(5,482)	1.38
Industrial and commercial complexes	117.4	(290)	0.07
Mixed urban or built-up areas	749.5	(1,852)	0.47
Other urban or built-up areas	10,578.9	(26,140)	6.51
Agricultural Land			
Cropland and pasture	18,310.2	(45,244)	11.37
Orchards, groves, vineyards, nurseries, and ornamental horticultural areas	720.8	(1,781)	0.45
Other agricultural land	-	-	-
Rangeland	81,975.2	(202,558)	50.92
Forest Land	12,700.7	(31,383)	7.9
Water	799.7	(1,976)	0.5
Wetland	11,361.1	(28,073)	7.1
Barren Land			
Strip mines, quarries, and gravel pits	123.4	(305)	0.08
Other barren land	7,637.5	(18,872)	4.74
County Total	160,989.7	(397,800)	100

8. Summary

Four Level I and Level II categories comprise more than 75 percent of the land use in the study area (Table 1.10): rangeland, 31.28 percent; cropland and pasture, 22.18 percent; wetland, 12.34 percent; and orchards-groves, 9.44 percent. All Level II categories under "urban or built up" (Level I) total only 9.33 percent of the study area, and the "urban or built-up" areas are not distributed evenly; instead, they occur primarily along the Gulf Coast between Tampa and Sarasota and are located along major transportation arteries (Plate 4, map pocket). In the case of the concentration between Tampa and Sarasota, "urban and built-up" areas follow the main transportation route, I-275 (U.S. 41). Another concentration occurs between Tampa and Lakeland along I-4 and U.S. 92. In the interior, this category is scattered.

Table 1.10. Generalized Land Use, 7-County Study Area, 1975

Applicable LUDA Levels Level I/Level II	Area Hectares	(Acres)	Percent of Study Area
Urban or Built Up			
Residential	79,345.1	(196,059)	5.49
Commercial and services	8,738.8	(21,593)	0.61
Industrial	10,358.3	(25,595)	0.72
Transportation, communications, and utilities	7,459.1	(18,431)	0.52
Industrial and commercial complexes	558.1	(1.379)	0.04
Mixed Urban or built-up areas	5,787.1	(14,300)	0.40
Other urban or built-up areas	22,428.5	(55,420)	1.55
Agricultural Land			
Cropland and pasture	320,404.6	(791,709)	22.18
Orchards, groves, vineyards, nurseries, and ornamental horticultural areas	136,324.6	(336,854)	9.44
Other agricultural land	-	-	-
Rangeland	451,741.5	(1,116,238)	31.28
Forest Land	69,649.3	(172,101)	4.82
Water	67,411.0	(166,570)	4.67
Wetland	178,267.9	(440,494)	12.34
Barren Land			
Strip mines, quarries, and gravel pits	45,073.4	(111,375)	3.12
Other barren land	40,714.9	(100,605)	2.82
Study Area Total	1,444,262.2	(3,568,723)	100

The Level I categories "agricultural land" and "rangeland" dominate the interior of the study area. The majority of the former is in the Level II category "cropland and pasture."

Under the Level I category "barren land," the Level II category "strip mines, quarries, and gravel pits" comprises only 3.12 percent (45,291 hectares, or 111,375 acres) of the entire study area; however, there is a noticeable concentration in Polk County (41,596 hectares, or 102,742 acres), with 12.5 percent of the county in this land use category. The category, "strip mines, quarries, and gravel pits " does not consider age of mined land, nor its condition in regard to revegetation.

The other Level II category with a large representation in the study area is "transitional areas," i.e., areas that are in transition from one land use to another. The largest concentration of this category is a large, unoccupied subdivision north of Charlotte Harbor in Charlotte and Sarasota counties.

D. LAND OWNERSHIP

The fundamental assumption of economic geography is that the private landowner behaves as a "reasonable man," i.e., that he sees that the use of his land maximizes his economic profit. Thus, assuming that a property owner has reasonable complete control, he is a key participant in the land use decision process (Platt 1976).

Land owned by phosphate companies (Plate 7, in pocket) totals 225,466 hectares (557,120 acres), or 2255 square kilometers (870.5 square miles), 14.1 percent of the study area.

Not all phosphate company-owned lands are strip-mined; only about 20 percent of the total land owned by the phosphate companies is classified as "strip mines, quarries, and gravel pits," while the remainder of phosphate company lands has varied uses, according to the USGS land use and land cover maps. The following Level II categories are common uses of the phosphate company lands that are not mined: "herbaceous rangeland," "cropland and pasture," "orchards and groves," "forested wetland," and "evergreen forest land." Of these categories, "herbaceous rangeland" is the most frequent other use.

The USGS maps do not reveal the presence of reclaimed land. The other land uses on phosphate company-owned lands could represent an interim use (before mining) or actual reclaimed land. Although land areas owned by the phosphate companies could be viewed as potential strip-mined areas, physical, economic, and legal considerations will influence the amount and location of mined land. Physical and economic influences are covered in other volumes.

Administrative and regulatory land use controls are described in the section that follows.

SECTION 2

LAND USE PLANNING

A. INTRODUCTION

Florida, like most states, historically has delegated land use planning and control to local governments. New state programs are directed primarily at strengthening local capabilities to plan and implement thorough land use controls and at strengthening state and regional capabilities to monitor development, provide uniform criteria, and coordinate planning activities. A few regulatory roles are held at state levels, but most powers to control land and resource use still reside with local agencies and commissions.

Planning and plan implementation powers in Florida are distributed between local and state governments and among special districts. Regional goal setting and evaluation are provided by regional planning councils in which local participation is voluntary (Imhoff 1976).

B. STATE PLANNING

The Florida Division of State Planning (Department of Administration) created by The Florida State Comprehensive Planning Act of 1972 is the state's lead agency for land use planning. This agency reports to the governor and is responsible for issuing policy documents and comprehensive plans and coordinating and reviewing planning activities on local levels throughout the state.

The State Comprehensive Planning Act of 1972 authorizes the preparation and maintenance of a state comprehensive plan. The law requires that the plan be produced through a coordinated effort using information and assistance from local, state, federal, and regional agencies. Primarily, the plan is intended to provide policy for governmental decision-makers in carrying out their responsibilities, but it is also helpful to private businesses, interest groups, and citizens interested in the future of Florida.

A comprehensive plan is not a blueprint for the future but rather a reference point for agreed-upon policy to guide day-to-day governmental decisions. The state comprehensive plan does not replace the plans of other governmental agencies or private enterprise; rather, it supplements, supports, and incorporates the results of other planning efforts. For instance, regional and local plans ideally should be an extension of the state plan, adding the specificity and detail necessary to respond to their unique needs and problems. Other state plans such as the coastal zone management plan or water use plan are appropriately included in the state comprehensive plan (Florida Division of Planning 1976).

Preliminary editions of the following elements of the state comprehensive plan were circulated to the public in the fall of 1976, with opportunity for citizen input and comment (Florida Division of Planning 1976):

- Agriculture
- Economic development
- Education
- Growth
- Health
- Housing and community development
- Land development
- Recreation/leisure
- Social services
- Transportation

An element is intended to serve several purposes:

- Coordinate planning and operating policies
- Assess what is known about or what is being done in the element area
- Be an educational tool to inform decision-makers and citizens
- Establish basic policy to influence future decision-making
- Identify issues, problems, and needs
- Look at the relationship between the various responsibilities of government and the existing policies among state, local, and federal governments

To date, nine of the 10 listed elements (economic development is the exception) have been approved by the Florida Department of Planning and sent to the governor and legislature for approval. Four other elements are now being developed: water, security, energy, and utilities. Target date for their completion is April 1978 (Swanson 1977).

Land use management and planning of Florida's coastal zone are currently being studied by the governor's coastal zone task force, which is responsible for assisting the governor in determining the appropriate administrative structure with which to implement Florida's coastal zone program. The overall goal of the governor, legislature, and the task force is to put Florida's program in step with the federal Coastal Zone Management Act of 1972 (Mabe 1977). A coastal zone management (CMZ) plan developed by the Florida Department of Natural Resources (Bureau of Coastal Zone Planning) classifies coastal areas into three types - preservation, conservation, and development - and specifies policies for each type. Although the task force has recommended that the Department of Environmental Regulation be designated as the agency responsible for coordination of planning and management activities on the various levels of government and responsible for signing off local government approvals of developments in coastal areas, an agency has yet to be officially designated. Already, under the Local Government Comprehensive Planning Act of 1975, local governments are required to address coastal zone protection (Mabe 1977).

C. LOCAL PLANNING

Although the Division of State Planning is an integral part of land use planning in Florida, local government planning agencies influence to an even greater extent the decisions related to land use.

Until 1973, almost 60 percent of the land area of Florida was not under zoning or subdivision regulations by local government. The general law of Florida in regard to regulation was Ch. 163 II, Florida Statutes; this law was permissive for counties. On the other hand, Ch. 173, Florida Statutes, applied to cities but was repealed after passage of the Home Rule Bill, Ch. 179, Florida Statutes, which made Ch. 173 redundant. Until 1975, land development regulation was a local option, with urban areas typically exercising a broad range of powers and rural areas generally exercising few if any.

The Local Government Comprehensive Planning Act of 1975, Ch. 163.31, Florida Statutes, mandated planning and its implementation via land development regulations for all cities and counties within the state. This legislation, along with the Environmental Land and Water Management Act of 1972, Ch. 380, Florida Statutes, was patterned on the American Law Institute's Model Land Development Code. Although the effective date of Ch. 163.31 was July 1, 1975, jurisdictions do not have to be in compliance until July 1, 1979; however, by July 1, 1976, all jurisdictions had to inform the Division of State Planning of the Florida Department of Administration of the designation of a local planning agency (LPA). This designation indicated an intent to comply with the provisions. Should a city fail to comply, the county that it is within assumes the responsibility for developing the comprehensive plan and its implementing ordinances; should a county fail to comply, the Division of State Planning (DSP) assumes the responsibility. In this manner, it is assured that all areas within the state will have planning and plan implementation.

The following elements must be included as part of the comprehensive plan:

- Future land use plan
- Traffic circulation
- A general sanitary sewer, solid waste, drainage, and potable water
- Conservation
- Recreation and open space
- Housing
- Coastal zone protection (for those jurisdictions lying in part or in whole in the coastal zone)
- Intergovernmental coordination
- Utility
- Mass transit (a "must" for units of government with a population exceeding 50,000 but optional for those with a population of less than 50,000)

- A plan for circulating nonautomotive vehicular and pedestrian traffic (a "must" for units of government with a population exceeding 50,000 but optional for units having a population of less than 50,000)

Optional elements are as follows:

- Off-street parking
- Public services and facilities
- Public building and related facilities
- Recommended community design
- General area redevelopment
- Safety
- Historical and scenic preservation
- Economics
- Such other elements as may be peculiar to and necessary for the area concerned and as are added to the comprehensive plan by the governing body upon the recommendation of the local planning agency

The plan must be submitted to adjoining units of government, the county (in case of a city), the regional planning council, and the Division of State Planning for comment after adoption by the LPA but before adoption by the governing body.

A survey conducted by the DSP found that all of the counties of the 7-county impact area had zoning ordinances as of August 17, 1976. Thus, land use controls are being exercised. The cities were not surveyed.

Based on the designation of LPAs, then, all seven counties are in compliance with Ch. 163.31. Moreover, all cities are also in compliance (see Table 2.1). However, the progress of local governments toward meeting the requirements of The Local Government Comprehensive Planning Act of 1975 varies across the 7-county study area. To determine the progress of each, telephone interviews were conducted in March 1977 with a representative of each county planning agency.

Table 2.1. Local Planning Agency Designations*

County	Unit	Agency
Charlotte		Charlotte County-Punta Gorda Planning Council
	Punta Gorda	Charlotte County-Punta Gorda Planning Council
DeSoto		County Zoning Director
	Arcadia	County Planning and Zoning Board
Hardee		County Planning and Zoning Board
	Bowling Green	City Planning and Zoning Commission
	Wauchula	City Council
	Zolfo Springs	Town Planning Commission
Hillsborough		County Planning Commission
	Plant City	City Planning Board
	Tampa	Hillsborough County Planning Commission
	Temple Terrace	Hillsborough County Planning Commission
Manatee		County Planning Commission
	Anna Maria	City Commission
	Bradenton	City Planning Commission
	Bradenton Beach	City Planning and Zoning Commission
	Holmes Beach	Local Planning Commission
	Longboat Key	Town Planning and Zoning Board
	Palmetto	City Planning and Zoning Board
Polk		Polk County Department of Development Coordination
	Auburndale	City Manager
	Bartow	City Zoning Commission
	Davenport	Town Council
	Dundee	Town Commission
	Eagle Lake	City Council
	Fort Meade	City Planning Board
	Frostproof	Mayor and Director of Public Works
	Haines City	City Planning Commission
	Highland Park	Office of the Mayor
	Hillcrest Heights	Town Planning and Zoning Board
	Lake Alfred	City Planning Board
	Lake Hamilton	Town Planning Commission
	Lake Wales	City Manager
	Lakeland	City Planning and Zoning Board
	Mulberry	City Planning Commission
	Polk City	Comprehensive Planning Board
	Winter Haven	City Planning Board
Sarasota		County Planning Commission
	Longboat Key	Town Planning and Zoning Board
	North Port	City Planning and Zoning Advisory Board
	Sarasota	City Planning Department
	Venice	City Planning Commission

*Florida Division of State Planning (1976).

1. Charlotte County

Charlotte County has completed and obtained state approval for the following elements of its comprehensive plan:

- Land use management
- Water
- Sewer

Other elements will be addressed as the county works toward the July 1, 1979, deadline. Also, the elements that have already been approved may be updated, if necessary, before the final deadline (Best 1977).

2. DeSoto County

DeSoto County has completed most of the elements in its comprehensive plan; however, the completed report, DeSoto County Comprehensive Plan (2 volumes), will not be submitted to the Florida Division of Planning until a time closer to the July 1, 1979, deadline. The reason for this approach is to avoid being "locked" into an outdated comprehensive plan (Schaefer 1977).

3. Hardee County

Hardee County has made no progress or timetable to date toward meeting requirements, and the status of the Hardee County Planning and Zoning Board as lead agency may change (Sheffield 1977).

4. Hillsborough County

Hillsborough County released its Horizon 2000 Plan in May 1977. This document will meet the state requirements and similar requirements of Hillsborough County legislation. Its adoption by the county is expected by October 1977, after which it will be sent to the state for final approval (Nagama 1977).

5. Manatee County

Manatee County's methodology for the inventory of land use, the first element to be addressed, has been completed and will be published by December 1977, with other elements to follow. The Manatee County Future Land Use Plan, Year 2000 (July 1975) is the present planning document but is a policy guide only and does not meet the state requirements (Widmer 1977).

6. Polk County

Polk County has begun to develop three elements of its comprehensive plan:

- Open space/ recreation
- Housing
- Conservation

The open space/recreation element is scheduled for completion first, with adoption by the county around July 1977; all other elements will be completed by early 1979, with land use scheduled to be the last element. The major data source for the comprehensive plan is the Polk County Land Use Inventory, Development Guidelines and Population (1973) (Joachim 1977).

7. Sarasota County

Sarasota County will use the document, Sarasota County Land Use Plan (1975), as a guide in developing its comprehensive plan. All elements will be completed by early 1979 to meet the July 1, 1979, deadline (Ollry 1977).

C. REGIONAL PLANNING

The role of regional planning agencies is described in the following section on administrative and regulatory land use.

SECTION 3

ADMINISTRATIVE AND REGULATORY LAND USE CONTROLS

A. INTRODUCTION

The current landscape of central Florida reflects the results of both public and private decision-making. In the private sector, local governments have been more influential than either federal or state governments in controlling land use. The major tools of land use control are depicted in Figure 3.1.

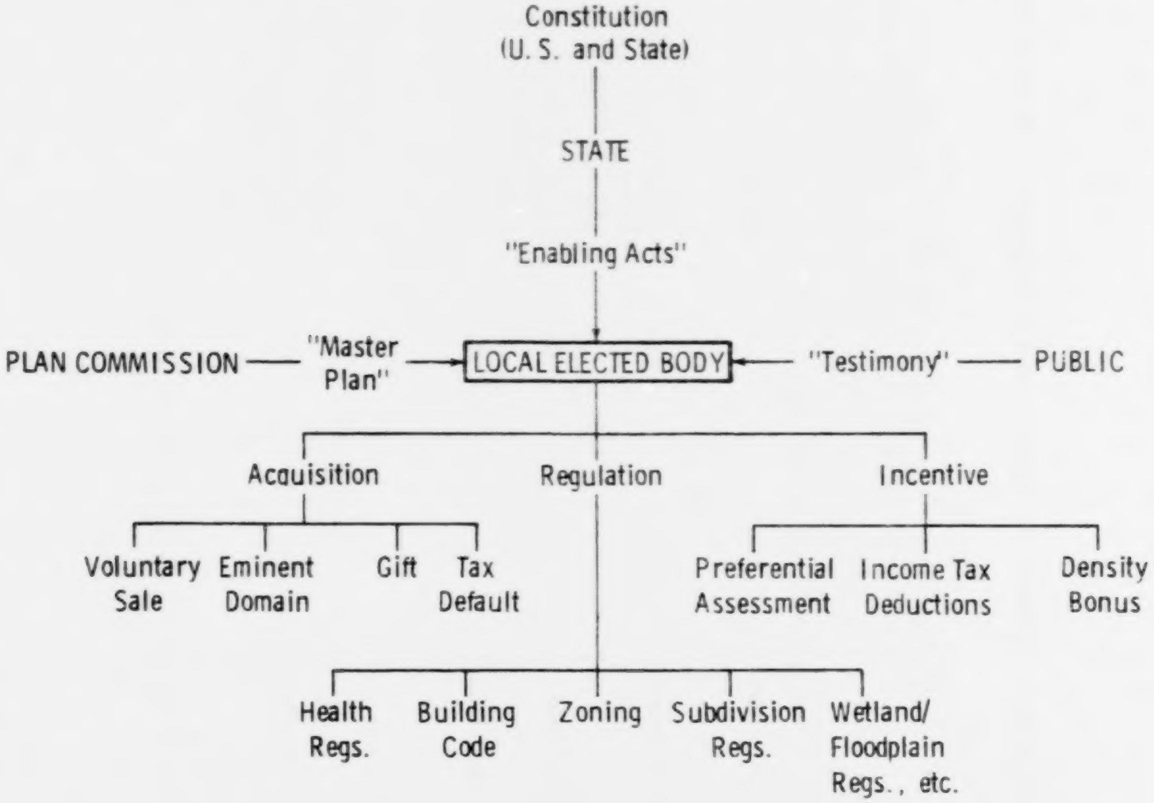
Constitution (U. S. and State)
STATE
"Enabling Acts"
PLAN COMMISSION
"Master Plan"
LOCAL ELECTED BODY
"Testimony"
PUBLIC
Acquisition
Regulation
Incentive
Voluntary Sale
Eminent Domain
Gift
Tax Default
Preferential Assessment
Income Tax Deductions
Density Bonus
Health Regs.
Building Code
Zoning
Subdivision Regs.
Wetland/ Floodplain Regs., etc.

Figure 3.1. Tools of Public Land Management (Platt 1976)

B. CONTROLS OVER MINING

A number of state, regional, and local planning-related and/or land development regulatory agencies affect mining activities in the study area.

Table 3.1. Summary of County Land Development Controls over Mining

County	Administrative Authority	Requirements				
		County-Level Impact Assessment?	County-Level Master Plan Reclamation Plan?	Financial Responsibility or Bond?	Permit Review (scheduled)?	On-Site Inspection?
Charlotte	Currently, no land-development regulatory ordinances pertaining to mining.					
DeSoto	County commissioners	No	Yes	$500 per acre	Annual	Florida-registered professional must inspect dams and other structures
Hardee	County commissioners	No	Yes	$2000 minimum but varies with acreage and amount of activity	Annual	Florida-registered professional engineer must inspect dams and other structures
Hillsborough	County commissioners	No	Yes	Must show evidence of financial responsibility	Annual	"Periodic" inspection by county engineer
Manatee	County commissioners	No	Yes	$500 per acre	Annual	Florida-registered professional engineer must inspect dams and other structures
Polk	County commissioners	Yes	Yes	Must show evidence of financial responsibility	Annual	No
Sarasota	County commissioners	No	Yes	$2000 minimum but varies between $100 and $500 per acre	Periodic and upon request from individual company (to determine $ credit for reclamation progress)	No

The following paragraphs summarize and highlight the state, regional, and local land development regulations.

1. Local

Local governments in Florida have ample power to regulate land development within their jurisdictions. County ordinances across the study area vary regarding their particular controls over mining. Table 3.1 summarizes the county land development controls over mining in terms of administrative agencies, need for impact assessment beyond the requirements of the state-level DRI, need for a master plan, posting of a bond for possible environmental damages, schedule requirements for permit review by the administrative agency, and requirements for on-site inspection. In the development of the table, officials of county planning and/or zoning agencies (Best, Schaefer, Sheffield, Shaw, Widmer, Joachim, Smith 1977) were interviewed by telephone and the ordinances examined.

All counties stipulate that companies must provide evidence that they have met all other requirements stipulated by other agencies (federal, state, or other local) having some jurisdiction over mining. An example would be the evidence of a company having a state-approved Development of Regional Impact (DRI).

2. State

Because many types of developments impact areas other than the area of jurisdiction, the state of Florida has implemented its DRI review process. The Environmental Land and Water Management Act of 1972 (Ch. 380, Florida Statutes) requires a review by the regional planning council which has jurisdiction prior to the granting or denial of developmental approval by the local government; moreover, there is a system of appeals up to the governor and cabinet sitting as the Florida Land and Water Adjudicatory Commission with authority to grant or deny applications for development approval and to attach conditions or restrictions to its decisions. Thus, regional planning councils aid local governments in their review of application for development approval the power of the state is available to implement decisions, once rendered. Guidelines for the DRIs are set forth in Ch. 22-F2, Pt. II, Florida Statutes. Section 22F-2.06 defines a DRI for mining as follows:

"(1) The following development shall be presumed to be a development of regional impact and subject to the requirements of Chapter 380, Florida Statutes:

"Any proposed solid mineral mining operation which annually requires the removal or disturbance of solid minerals or overburden over an area, whether or not contiguous, greater than one hundred (100) acres or whose proposed consumption of water would exceed three million (3,000,000) gallons per day. In computing the acreage for this purpose, a removal or disturbance of solid minerals or overburden shall be considered part of the same operation if it is all located within a circle, the radius of which is one mile and the center of which is located in an area of removal or disturbed solid minerals or overburden.

"(2) As used in this section:
(a) the term "overburden" means the natural covering of any solid mineral sought to be mined, including, but not limited to, clay, gravel, phosphate rock, lime, shells (excluding live shellfish), stone and any rare earths contained in the soils or waters of this state, which have therefore been discovered or may be hereafter discovered."

Thus, phosphate mining would be a DRI and come under regional and state review. The application would be reviewed in terms of impact on the region's environment and natural resources, economy, public facilities, public transportation, and housing, as well as miscellaneous impacts such as effect on public plans (Imhoff 1976).

3. Regional

Two other agencies of importance are:

- Regional planning
- Water management

a. Regional Planning Councils

Regional planning councils (RPCs) are advisory and coordinative. There are three in the region: the Central Florida Regional Planning Council (DeSoto,* Hardee,* Highlands, Okeechobee, and Polk* counties); the Tampa Bay Regional Planning Council (Hillsborough,* Manatee,* Pasco, and Pinellas counties); and the Southwest Florida Regional Planning Council (Charlotte,* Collier, Glades, Hendry, Lee, and Sarasota* counties).

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*Part of the study area.

The oldest of the three, the Tampa Bay Regional Planning Council (TBRPC), has developed extensive regionwide plans to guide member counties; to date, however, most of the emphasis has been placed on the Tampa-St. Petersburg urbanized area.

The Southwest Florida Regional Planning Council (SWFRPC) was formed in 1973 and has not yet developed regional land use plans to the same level as the TBRPC.

The Central Florida Regional Planning Council (CFRPC) has not begun to develop regional land use plans.

In terms of land use regulations, the RPCs do not have the power to regulate land use; instead, they can only advise local planning agencies. In the recent past, RPCs have tended to concentrate their efforts on questions of regional review and on regionwide issues generally involving various federal programs.

b. Water Management

The Southwest Florida Water Management District (SWFWMD) has jurisdiction over water-related planning and consumption in the study area. SWFWMD approves (or denies) consumptive water-use permits and may modify the permit application to allow withdrawal of only that amount of water actually necessary for mining and benefication. For example, SWFWMD may require that the mining operation recharge water to the artesian aquifer in amounts equal to those pumped from the Floridan aquifer, as well as other conservation practices as a condition of a permit. It also acts as a reviewing agency, assisting the RCPs regarding water-related aspects of a complex DRI, and recommends approval or denial (to the RPCs) of development permits based on the developments' impact on local and regional water resources (Imhoff 1976).

4. Summary

The various levels of government (local, regional, and state) in the study area are actively involved in land use planning. Moreover, they possess all necessary powers and authority to regulate all forms of development.

SECTION 4

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CHAPTER 4

FUTURE LAND USE

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SECTION 1
INTRODUCTION

Basic determinants of future land use are social and economic trends, as well as the availability of natural resources such as land and water. Man-made facilities such as transportation corridors and utility and communication networks attract development to surrounding regions. Also important in influencing future land use patterns are the various constraints contained in local, state, and federal plans and regulations. Laws and regulations affecting various environmental aspects of land use in the study area are also discussed in Volume II of this series of working papers. As in the case of existing land use (Chapter 3 of this volume), land ownership by the phosphate industry (Plate 7 in pocket) is an essential consideration in determining future land use patterns in the study area and must be an integral part of the total framework of all determinants.

Future land use will be affected by each of the aforementioned factors. Therefore, this volume in the series integrates these factors so that the most valid picture possible of future land use in the 7-county study area as of the target date, the year 2000, may emerge.

Projections from past trends and existing conditions comprise a major portion of the methodological approach to future land use. The primary information source was the Four River Basins Area Economic Base Study, Water Resources Management Study (U.S. Army Corps of Engineers 1976), and personal interviews with at least one representative from all study area county planning agencies and regional planning councils to obtain additional input regarding the compatibility of individual county land use plans and policies with the land use projections of the Four River Basins Study. Finally, projected future land use (expressed in hectares and acres) in the various land use categories was obtained through linear regression. Specific methodologies are presented in Appendix 2.

SECTION 2
FUTURE LAND USE PATTERNS

An overview of future land use in the 7-county study area is examined best through descriptions by USGS Land Use Data and Analysis (LUDA) categories and by county descriptions and tables.

A. LUDA LEVEL I CATEGORIES

Precise patterns of land use for the year 2000 are difficult to estimate, but there are distinct past trends that will undoubtedly continue to that date.

To key this information better to the future land use map (Plate 8 in map pocket) and for clarity, patterns are grouped as to LUDA Level I categories for discussion.

Table 2.1 summarizes actual areas and changes in land use over time for the 7-county study area.

1. Urban or Built Up

Between 1975 and 2000, this Level I category will experience a 44 percent increase in land use, primarily because of the residential, industrial, and transportation, communications, and utility Level II categories (Table 2.1). The industrial growth will be related primarily to the phosphate industry, while additional power plant construction will result in an increase in area devoted to this land use class.

Residential expansion will occur primarily along the Gulf Coast, along existing and planned major transportation arteries (e.g., I-4, I-75, I-7, and U.S. 92 and 41), and in the scattered existing population modes along lesser transportation routes (e.g., U.S. 17).

2. Agricultural Land

This Level I category will decrease approximately 7 percent over the 7-county study area, representing displacement of former agricultural land by

Table 2.1. 7-County Study Area Generalized Land Use, 1975 and 2000

Applicable LUDA Level I/Level II	1975 Hectares	1975 Acres	% of Study Area	1985 % of Study Area	2000 Hectares	2000 Acres	% of Study Area	% Change: 1975-2000	2035 % of Study Area
Urban or Built Up									
Residential	79,345	196,059	5.49	7.05	119,291	294,764	8.26	50.5	11.08
Commercial and services	8,739	21,593	0.61	0.70	10,965	27,094	0.76	24.6	0.87
Industrial	10,358	25,595	0.72	1.13	15,562	38,451	1.08	50.0	0.95
Transportation, communications, and utilities	7,459	18,431	0.52	1.15	16,470	40,697	1.14	119.2	1.16
Industrial and commercial complexes	558	1,379	0.04	0.07	583	1,441	0.04	0	0.04
Mixed Urban or built-up areas	5,787	14,300	0.40	0.40	5,826	14,396	0.41	2.5	0.41
Other Urban or built-up areas	22,429	55,420	1.55	1.65	25,152	62,147	1.74	12.3	1.95
Agricultural Land									
Cropland and pasture	320,405	791,709	22.18	20.46	299,396	739,800	20.73	-7.0	21.35
Orchards and groves	136,325	336,854	9.44	9.02	127,384	314,760	3.82	-6.8	8.35
Other agricultural land	-	-	-	-	-	-	-	-	-
Rangeland	451,742	1,116,238	31.28	29.38	422,286	1,043,455	29.24	-7.0	28.91
Forest Land	69,649	172,101	4.82	3.81	58,784	145,255	1.07	-18.4	4.67
Water	67,411	166,570	4.67	4.72	68,038	168,120	4.71	0.9	4.71
Wetland	178,266	440,494	12.34	12.21	176,145	435,247	12.20	-1.1	12.15
Barren Land									
Strip mines, quarries, and gravel pits	45,073	111,375	3.12	4.98	51,070	126,193	3.54	13.5	0.17
Other barren land	40,715	100,605	2.82	3.27	47,070	116,308	3.26	15.6	3.23
County Total	1,444,262	3,568,723	100.00	100.00	1,444,262	3,568,723	100.00		100.00

both the urban and built-up category and phosphate mining. Displacement by phosphate mining, however, is temporary, and reclamation of mined lands will undoubtedly return some of the former agricultural land to production. This reclamation will continue after the year 2000, as evidenced by an increase in agricultural land between 2000 and 2035 (Table 2.1).

3. Rangeland

Rangeland area will decline 7 percent between 1975 and 2000, primarily because of expansion of the urban and built-up category. Former rangeland in DeSoto County, however, will be occupied by a Florida Power and Light power plant complex. Also, some former rangeland will be converted to strip mines and, in the case of agricultural land, this conversion may be temporary.

4. Forest Land

This Level I category will decline more in total area (18.4 percent) between 1975 and 2000 than any other Level I category, and more will be displaced by phosphate mining than by urban expansion. However, the year 2000 projections of displacement of forests by phosphate mining (based on the Four River Basins Study) may be slightly distorted because reclamation probably will have restored some forests by the year 2000.

5. Water

Water, which includes all surface water, will increase over the 7-county study area between 1975 and 2000 by only 0.9 percent. This is so slight that it is difficult to hypothesize about the cause. Possibilities include construction of small urban-oriented reservoirs or creation of small lakes during the phosphate reclamation process.

6. Wetlands

A decrease of 1.1 percent in wetlands is indicated between 1975 and 2000 — and, as in the case of water, such a small decrease is difficult to explain, especially in light of some specific laws and regulations regarding development of wetlands (refer to Volume II, Laws and Regulations). One variable which must be considered is the occurrence of wet and dry periods, which may affect the amount of wetlands.

7. Barren Land

The Level I category "barren land" includes two entirely different and distinct Level II categories, strip mines and "other barren land."

Almost all of the strip-mined area in the seven counties of the study would be for phosphate, the exception being a few sand and gravel pits. The area occupied by phosphate mining is projected to increase 13.5 percent between 1975 and 2035.

The "other barren land" category, which includes lands having "less than one-third of the area with vegetation or other cover" or lands "in an obvious state of transition" (Anderson et al 1976), is projected to increase 15.6 percent between 1975 and 2035.

A majority of the planners and phosphate industry representatives contacted considered that the area in this category was overestimated for the year 2000 and that, although some formerly mined areas will not have been completely reclaimed, 3.26 percent of the study area (47,070 hectares, or 116,308 acres) will not be in transition.

B. COUNTY PATTERNS

Future land use in the study area is examined by county through narrative descriptions and tables taken from U.S. Army Corps of Engineers information.

1. Charlotte County*

The county's future development is expected to continue its general coastal and highway pattern. The Gulf Coast, along with Charlotte Harbor, will continue to attract residential and associated commercial facilities, but not all new development is anticipated within the existing pattern of residential development. New planned unit developments (PUDs) throughout portions of the county will account for new patterns of residential growth. The construction of

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*Approximately the southeastern one-third of Charlotte County was outside the Four River Basins Study area. Descriptions and tabulations include only those portions of the county within the 7-county study area.

I-75 through the central portion of Charlotte County, Port Charlotte Punta Gorda will accelerate the urbanization.

In Table 2.2 are future Charlotte County land use tabulations in hectares, acres, and percent of area in that land use category.

By 1985, the county is expected to accommodate 70,900 persons, reflecting an annual growth rate averaging 6 percent over a period of 10 years. Most of this increase can be attributed to the high-density multifamily residential developments projected for the areas surrounding Port Charlotte and Punta Gorda. West and southwest of the Myakka River to the Gulf Coast, future development is expected to continue its residential trend, primarily because of the existing centers of New Point Comfort, Grove City, Placadia, and Rotunda. In fact, most residential growth in this portion of the county is projected in the area of Rotunda, which is southeast of Grove City along the west branch of Coral Creek; this PUD will generally be an independent community.

Charlotte Beach, Gardens of Gulf Cove, and Cape Haze will be other areas of notable residential growth. In keeping with the current trend, this portion of the county's economic base will continue its orientation toward tourism and retirees; as tourism increases, additional highway and associated commercial facilities also will increase. In general, other areas of commercial activity will be restricted to central business districts within these centers of development.

Just above the confluence of the Myakka and Peace rivers, Port Charlotte is expected to remain the principal center of development. Growth will radiate from development centers along the major transportation arteries (U.S. 41 and local Routes 771 and 776) until one large urban center emerges. Two factors accelerating growth in this area will be the North Port development northwest of Port Charlotte and the advent of I-75 to the east, paralleling U.S. Route 41. North Port is a large residential development encompassing large land areas in Sarasota and Charlotte counties; continually attracted growth to this development, coupled with the linear expansion of Port Charlotte in the northwest along U.S. 41, will cause these two centers of development to merge. The construction of I-75 east of Port Charlotte will accelerate urbanization throughout the area. Development along this corridor, in addition to

Table 2.2. Charlotte County Generalized Land Use, 1975 and 2000

	1975			1985	2000				2035
Applicable LUDA Level I/Level II	Hectares	Acres	% of Study Area	% of Study Area	Hectares	Acres	% of Study Area	% Change: 1975-2000	% of Study Area
Urban or Built Up									
Residential	2,412	5,960	1.65	2.93	8,167	20,180	5.57	237.6	11.74
Commercial and services	143	353	0.10	0.10	182	449	0.12	20.0	0.19
Industrial	35	86	0.02	0.02	35	86	0.02	0	0.02
Transportation, communications, and utilities	318	787	0.22	0.22	318	787	0.22	0	0.22
Industrial and commercial complexes	-	-	-	-	-	-	-	-	-
Mixed Urban or built-up areas	125	308	0.09	0.09	125	308	0.09	0	0.09
Other urban or built-up areas	741	1,832	0.51	0.59	929	2,295	0.63	23.5	0.74
Agricultural Land									
Cropland and pasture	3,378	18,230	5.04	4.79	6,940	17,149	4.74	-13.6	4.62
Orchards and groves	3,351	8,281	2.26	2.29	3,351	8,280	2.29	1.3	2.29
Other agricultural land	-	-	-	-	-	-	-	-	-
Rangeland	54,252	134,054	37.04	36.93	52,477	129,668	35.83	-3.4	33.24
Forest Land	5,471	13,519	3.74	3.74	5,447	13,460	3.72	-0.5	3.68
Water	30,474	75,301	20.81	20.81	30,474	75,301	20.81	0	20.81
Wetland	21,586	53,338	14.74	14.74	21,586	53,338	14.74	0	14.74
Barren Land									
Strip mines, quarries, and gravel pits	146	361	0.10	0.10	146	361	0.10	0	0.10
Other barren land	20,034	49,503	13.68	12.65	16,290	40,251	11.12	-23.0	7.52
County Total	146,467	361,913	100.00	100.00	146,467	361,913	100.00		100.00

its secondary growth effects, will eventually merge, with development pressures from Port Charlotte and Harbour Heights. In effect, this will have created by the year 2035 an extensive area of development from the Peace River to the Myakka.

Based on DRI-proposed developments and the possible influence from the proposed I-75 alignment east of Port Charlotte and Punta Gorda, the area probably will triple its 1985 population by the year 2035.

Although development in this portion of the county will be predominantly residential, some commercial and industrial activities will be present. Commercial uses will be concentrated primarily in the central business districts (CBDs) and along major transportation arteries. Future industrial uses will remain concentrated in the area north of Port Charlotte. The growth and development of these activities will be primarily a function of residential growth.

Even though most of Charlotte County's future growth is expected west of Charlotte Harbor and the Peace River, the portion of the county south and east of the Peace River also will experience substantial development. With the advent of I-75 through the central portion of the county, Punta Gorda, the county seat, is expected to increase in residential, commercial, and industrial activity. Residential land use will expand primarily from Punta Gorda and other centers of development; these include Peace River Shores, Cleveland, and Tropical Gulf Acres. Other areas of notable growth are the two developments of Charlotte Ranchettes along SR 74 and South Punta Gorda Heights along U.S. 41; although these will continue to be primarily residential, some tourist activities will remain. Generally, commercial uses will be restricted to the CBDs associated with these centers as well as highway-oriented support facilities.

Future industrial activity will be located near the Punta Gorda interchange of I-75. The airport industrial park will continue to expand, and new industrial parks and complexes will develop in response to the transportation access to the southwest Florida market area.

Land use patterns in the year 2000 will reflect an intermediate stage in the previously described 1985-2035 trends. For example, the residential categor is projected to increase 237.6 percent between 1975 and 2000, with most of the increase coming from currently unoccupied subdivisions in the North Port and Myakka Estates areas. Cropland and pasture and other barren land will be the categories that will be most displaced by this residential expansion. Newly constructed highway interchanges along U.S. 41 will act as magnets for commercial development (Daltry 1977).

2. DeSoto County

DeSoto County's future growth and land use patterns (Table 2.3) will be highly dependent on external forces, e.g., developments projected for Sarasota and Manatee counties and the expansion of the Port Charlotte-Punta Gorda area in Charlotte County. However, based on the county's existing growth patterns and high reliance on agriculture for its economic stability, such an expansion may not occur in the near future. This will result in a comparatively low population increase. The county population projected for 1985 is only 25,600, which represents an average annual increase of 3.5 percent. Assuming that this moderate growth rate continues, 35,900 is expected to be the population in the year 2000 and 55,200 in the year 2035.

In addition to the development of the county's agricultural industry, a major economic growth factor projected is the proposed construction of Florida Power & Light's DeSoto Power Plant northeast of Arcadia and near the common boundary of Hardee and DeSoto counties.

Arcadia, which is at the crossroads of a number of major highways and rail lines, could expand into a major growth center for the rural counties of DeSoto and Hardee. The existing residential and associated land uses within Arcadia will be intensified. Arcadia will grow in population by acquiring more agricultural lands east of the city for residential uses. Also, areas west of Peace River will be developed for residential purposes, occupying more agricultural land and rangeland. In the southwestern corner of the county, more residential development is expected near the proposed residential DRIs in Charlotte County.

Table 2.3. DeSoto County Generalized Land Use, 1975 and 2000

Applicable LUDA Level I/Level II	1975 Hectares	 Acres	 % of Study Area	1985 % of Study Area	2000 Hectares	 Acres	 % of Study Area	% Change: 1975-2000	2035 % of Study Area
Urban or Built Up									
Residential	1,092	2,697	0.67	0.97	2,295	5,672	1.41	110.4	2.43
Commercial and services	756	1,869	0.46	0.49	925	2,286	0.57	23.9	0.74
Industrial	17	43	0.01	0.01	46	114	0.03	200.0	0.07
Transportation, communications, and utilities	226	559	0.14	5.17	8,442	20,859	5.17	3592.9	5.17
Industrial and commercial complexes	-	-	-	-	-	-	-	-	-
Mixed urban or built-up areas	265	654	0.16	0.16	284	702	0.17	6.3	0.20
Other urban or built-up areas	37	91	0.02	0.06	117	288	0.07	250.0	0.09
Agricultural Land									
Cropland and pasture	51,116	126,306	31.33	31.09	50,358	124,434	30.86	-1.5	30.34
Orchards and groves	24,215	59,835	14.84	14.84	24,162	59,703	14.81	-0.2	14.73
Other agricultural land	-	-	-	-	-	-	-	-	-
Rangeland	52,610	129,997	32.24	27.08	43,705	107,993	26.78	-20.4	26.10
Forest Land	2,788	6,889	1.71	1.71	2,788	6,889	1.71	0	1.71
Water	607	1,501	0.37	0.37	607	1,501	0.37	0	0.37
Wetland	29,119	71,953	17.85	17.85	29,119	71,953	17.85	0	17.85
Barren Land									
Strip mines, quarries, and gravel pits	-	-	-	-	-	-	-	-	-
Other barren land	326	806	0.20	0.20	326	806	0.20	0	0.20
County Total	163,174	403,200	100.00	100.00	163,174	403,200	100.00	0	100.00

There will be an increase in commercial, industrial, and recreational land uses in other areas proportional to the population to be served and the land converted for residential purposes.

DeSoto's rural character will be retained by the consolidation of growth in the existing urban areas and protection of the agricultural and farm lands of the county. The proposed waterfront development along Peace River would encourage tourism and subsequent increases in retail trade and service industries, which could boost the county's agricultural economy.

Phosphate mining most probably will be active in DeSoto County. A measure of the activity is reflected in the measured reserves of recoverable phosphate rock. The U.S. Bureau of Mines estimates DeSoto County's measured reserves as 16,300,000 metric (18,000,000 short) tons (Stowasser 1977).

In summary, land use patterns in the year 2000 will appear much the same as the 2035 projections of the Four River Basins Study, the only notable exception being the amount of residential and associated urban land uses and strip-mined areas. The land use categories most displaced by residential expansion will be cropland/pasture and rangeland. Arcadia will have expanded on both sides of the Peace River, and a large mobile-home park southwest of Arcadia (Kenetski 1977) will be an example of residential development occurring on the Peace River floodplain by the year 2000.

3. Hardee County

Hardee County's potential for development will be keyed to its transportation corridors and extensive untapped phosphate reserves. With the development of phosphate mining in the next 10-20 years, there is a possibility of a corresponding expansion of the east-west transportation corridor connecting the mining areas of the county directly with the northwestern part of Manatee County, thus opening a new outlet for the products. This will eliminate the need to transport the products to the port of Tampa by a longer route through Polk and Hillsborough counties.

The 1985 population of the county is expected to be about 24,000, representing an average annual increase of 2.5 percent. The population projection by 2000 will be 35,500. By 2035, Hardee County is expected to accommodate 65,000 because of the expansion of the phosphate industry and the subsequent economic growth. Approximately one-half of this population is expected mostly around the county seat, Wauchula, where most of the business activities of the county are concentrated.

Areas of commercial, industrial, and recreational land uses are expected to increase in proportion to the increase in population and the expansion of residential land uses. More industrial land is projected for Wauchula and Bowling Green in 1985 because of projected phosphate mining industrial activities. Except for expansion of urban areas close to Zolfo Springs, no transitional activities are projected for this area.

The agriculturally based economy of Hardee County will be stabilized by the prospects of the phosphate industry, which will reach its peak toward the end of 1980. The phosphate mines in Hardee will remain active longer than those in neighboring Polk and Hillsborough counties because of its larger, untapped reserves. Hardee County reserves of recoverable phosphate rate are estimated to be 176,000,000 metric (194,000,000 short) tons (Stowasser 1977).

Large tracts of rangelands and agricultural lands will be diverted to phosphate mining areas and associated industrial land use (Table 2.4). Most of the projected mining areas are in the Wauchula vicinity and Bowling Green.

Urban growth is projected to be concentrated along U.S. 17 in the existing urban areas of Wachula, Bowling Green, and Zolfo Springs. The area west of Route 17 bounded by the Seaboard Coast Line and State Routes 62 and 64 is expected to expand in residential uses, converting the immediate areas from agricultural lands and rangelands. Similarly, Zolfo Springs will expand toward the east, occupying more agricultural lands. Because the existing highways and railroads in the county and the possible expansion of the east-west transportation corridor will provide easy access to the Gulf of Mexico and the rapidly developing Bradenton area of Manatee County, Wauchula may become a regional center for the rural Hardee, DeSoto, and Highlands counties. The residential development in Wauchula and Zolfo Springs along the waterfronts of the Peace River probably will stimulate tourism in these urban areas, generating more retail trade and service sector employment while not further reducing agricultural land. By 2000, the residential category will have begun to spread

Table 2.4. Hardee County Generalized Land Use, 1975 and 2000

Applicable LUDA Level I/Level II	1975 Hectares	 Acres	% of Study Area	1985 % of Study Area	2000 Hectares	 Acres	% of Study Area	% Change: 1975-2000	2035 % of Study Area
Urban or Built Up									
Residential	1,419	3,507	0.87	1.04	2,375	5,869	1.46	67.8	2.45
Commercial and services	119	293	0.07	0.10	192	474	0.12	71.4	0.16
Industrial	67	166	0.04	0.40	526	1,299	0.32	700.0	0.13
Transportation, communications, and utilities	229	566	0.14	0.14	229	566	0.14	0	0.14
Industrial and commercial complexes	-	-	-	-	-	-	-	-	-
Mixed urban or built-up areas	-	-	-	-	-	-	-	-	-
Other urban or built-up areas	28	68	0.02	0.02	61	151	0.04	100.0	0.09
Agricultural Land									
Cropland and pasture	41,672	102,971	25.54	25.31	41,139	101,652	25.21	-1.3	24.99
Orchards and groves	27,973	69,120	17.14	17.03	27,288	67,427	16.72	-2.5	16.00
Other agricultural land	-	-	-	-	-	-	-	-	-
Rangeland	58,569	144,723	35.89	35.68	58,267	143,976	35.71	-0.5	35.76
Forest Land	4,573	11,299	2.80	2.80	4,573	11,300	2.80	-	2.80
Water	384	948	0.24	0.23	383	947	0.23	-4.3	0.23
Wetland	28,091	69,412	17.22	17.22	28,091	69,412	17.22	0	17.22
Barren Land									
Strip mines, quarries, and gravel pits	-	-	-	-	-	-	-	-	-
Other barren land	52	128	0.03	0.03	52	128	0.03	0	0.03
County Total	163,176	403,201	100.00	100.00	163,176	403,201	100.00		100.00

north of Wauchula toward Zolfo Springs along the Peace River, although croplands/pasture and orchards/groves will still occupy land between those urban areas. Wauchula will have begun to expand to the south and east of the Peace River. The Central Florida Regional Planning Council notes that the amount of land indicated in residences in Table 2.4 (2,375 hectares) may be slightly underestimated (Kenetski 1977).

By 2000, reclamation will have begun on some formerly mined lands in the western part of Hardee County. Since the same area appears as actively mined on the 1985 land use maps, some of the land (52 hectares) will be classed in the "other barren land" category, representing the transition phase. Reclamation will be well underway, however.

4. Hillsborough County

Trends indicate that Hillsborough County's population increases and associated commercial activities are shifting from urban to suburban areas. This means a higher population growth and development rate outside of Tampa. The county's population is expected to increase at a slower rate (annual growth rate of 1.7 percent) for the next 10 years and be 752,000 by 1985. Many areas that are attractive for growth have inadequate space for accommodating the projected population. The additional population will be forced to locate on lands adjacent to present urban areas.

Continued rapid growth is forecast for the general Brandon area and Tampa West as an extension of the development pattern northward to the Citrus Park-Fern Lake area, where sufficient developable land is available. The result will be a large population increase in the following decades, reaching a total of 907,900 by 2000 and 1,344,000 by 2035.

Located on many of the world's essential trade routes, Tampa is accessible to relatively inexpensive water transportation from major markets around the world; the port of Tampa, the nation's eighth largest port and the closest U.S. deepwater port to the Panama Canal, is the distribution and trade center for Florida and the southern United States.

Tampa will be forced into a slower growth rate by the attractive alternatives for newcomers in new spacious developments in the fringe areas. Moderate growth is forecast for the U.S. Highways 41 and 301 corridor south of the industrial areas of Gibsonton toward the county line. Spot development in rural communities will eventually form into urban fringe areas, depending on the sprawling development patterns.

To support the population growth, a similar gradual expansion of industrial, commercial, and service sectors of the economy is projected for the county by the County Planning Commission (Table 2.5). This growth will vary within the county, depending on various local conditions that may influence population shift. The trend of locating industries in industrial parks is expected to continue in even greater proportions. Popular locations are around the Tampa International Airport, the area between Tampa and Brandon, and close to Plant City. Clearly, the county will be the most industrialized of any in the study area.

A number of large residential projects are planned, including commercial facilities. Strip developments are expected to continue in those developing sections of the county. Shopping centers may become multiuse areas containing housing and recreation facilities as well as stores. An increase in distribution-warehousing activities is expected.

Hillsborough County will be a major producer of phosphate by 1985, and the mining will be continuing in importance in the year 2000; however, total land area being strip-mined will decline between 1985 and 2000. The increased amount of land in the "other barren land" category between 1985 and 2000 represents the transition between strip-mined and reclaimed areas. Both planners and phosphate industry representatives, however, feel that the amount of land in the "other barren land" category (3,431 hectares) for the year 2000 is overestimated. Reclamation should be well underway and/or completed, resulting in fewer hectares in the barren category (Logan and Howell 1977. Letun 1977). Also, there will be more acres in cropland/pasture than are indicated in Table 2.5.

Table 2.5. Hillsborough County Generalized Land Use, 1975 and 2000

	1975			1985	2000				2035
Applicable LUDA Level I/Level II	Hectares	Acres	% of Study Area	% of Study Area	Hectares	Acres	% of Study Area	% Change: 1975-2000	% of Study Area
Urban or Built Up									
Residential	32,557	80,448	11.75	14.64	45,727	112,989	16.51	40.5	20.86
Commercial and services	3,482	8,604	1.26	1.40	4,041	9,985	1.46	15.9	1.60
Industrial	3,947	9,752	1.42	2.59	7,160	17,692	2.59	82.4	2.58
Transportation, communications, and utilities	2,365	5,844	0.85	1.11	3,189	7,880	1.15	35.3	1.25
Industrial and commercial complexes	320	791	0.12	0.12	345	853	0.13	8.3	0.15
Mixed urban or built-up areas	3,962	9,790	1.43	1.43	3,981	9,838	1.44	0.7	1.44
Other urban or built-up areas	4,724	11,672	1.71	1.85	5,351	13,221	1.93	12.9	2.11
Agricultural Land									
Cropland and pasture	91,391	225,825	32.99	29.65	81,135	200,482	29.28	-12.7	28.44
Orchards and groves	26,085	64,454	9.42	8.44	22,124	54,668	7.99	-17.9	6.93
Other agricultural land	-	-	-	-	-	-	-	-	-
Rangeland	63,504	156,916	22.92	20.82	55,893	138,110	20.18	-13.6	18.69
Forest Land	15,963	39,443	5.76	5.33	14,942	36,922	5.39	-6.4	5.52
Water	4,764	11,772	1.72	1.71	4,750	11,736	1.71	-0.6	1.72
Wetland	17,495	43,230	6.32	6.28	17,131	42,329	6.18	-2.3	5.97
Barren Land									
Strip mines, quarries, and gravel pits	3,143	7,767	1.13	3.96	7,818	19,317	2.82	149.6	0.16
Other barren land	3,315	8,192	1.20	0.67	3,431	8,478	1.24	3.3	2.58
County Total	277,017	684,500	100.00	100.00	277,017	684,500	100.00		100.00

Perhaps the most striking aspect of the county's agriculture is the projected 19,426 hectares (48,000 acres) of irrigated pasture in 1985, 26,653 hectares (70,800 acres) in 2000, and 50,183 hectares (124,000 acres) in 2035. These projections, based on available pastureland and past irrigation trends, represent more than 36 percent of the total projected irrigated pastureland of the study area.

5. Manatee County

Water resources and accessibility to major urban areas will continue to attract future development to Manatee County along the coast and river shorelines. Located at the mouth of the Manatee River along U.S. 41, Palmetto and Bradenton are expected to remain dominant as the county's principal centers of development. The projected population of 167,000 by 1985, 241,600 by 2000, and 361,200 by 2035 will occur primarily near these two areas.

With the extensive amount of development anticipated for the Palmetto and Bradenton urban areas, it is estimated that the land area west of I-75 to the Gulf Coast will be developed by 2035. This, in effect, will create a coastal band of urbanization, separated by only the Manatee River. The areas south and west of Bradenton toward the city of Sarasota along both sides of U.S. 41 are expected to have a higher proportion of growth by the year 2000. This will create a major metropolitan corridor from the base of the Skyway Bridge at the mouth of Tampa Bay down the coast between the Gulf and the I-75 corridor through the length of Manatee and halfway down Sarasota County.

The natural amenities associated with Terra Ceia and Snead Islands should attract extensive residential growth in the near future. Some of the increases will result from growth pressures from Pineallas County across Tampa Bay and others from commercial and industrial activities in Hillsborough and other portions of Manatee County.

In general, the urban structure of Palmetto will remain unchanged over the next 60 years. Although intensification of existing uses is anticipated, relative patterns of residential, commercial, and industrial development will remain in their present location (Table 2.6). Commercial development near

Table 2.6. Manatee County Generalized Land Use, 1975 and 2000

Applicable LUDA Level I/Level II	1975 Hectares	Acres	% of Study Area	1985 % of Study Area	2000 Hectares	Acres	% of Study Area	% Change: 1975-2000	2035 % of Study Area
Urban or Built Up									
Residential	7,744	19,134	3.85	5.57	11,805	29,169	5.87	52.5	6.60
Commercial and services	969	2,394	0.48	0.66	1,438	3,554	0.71	50.0	0.86
Industrial	608	1,502	0.30	0.81	1,831	4,524	0.91	203.3	1.14
Transportation, communications, and utilities	302	746	0.15	0.15	296	731	0.15	0	0.15
Industrial and commercial complexes	121	298	0.06	0.06	121	298	0.06	0	0.06
Mixed urban or built-up areas	484	1,197	0.24	0.24	484	1,197	0.24	0	0.24
Other urban or built-up areas	5,213	12,881	2.59	2.84	5,699	14,082	2.84	9.7	2.84
Agricultural Land									
Cropland and pasture	55,212	136,427	27.48	25.92	51,530	127,330	25.65	-7.1	25.01
Orchards and groves	9,048	22,356	4.52	3.92	7,690	19,001	3.83	-18.0	3.60
Other agricultural land	-	-	-	-	-	-	-	-	-
Rangeland	95,238	235,329	47.40	47.19	94,752	234,130	47.16	-0.5	47.09
Forest Land	3,639	8,992	1.81	1.81	3,589	8,868	1.79	-1.1	1.73
Water	5,897	14,572	2.94	2.94	5,897	14,572	2.94	0.0	2.94
Wetland	10,988	27,151	5.47	5.29	10,630	26,266	5.29	-3.3	5.29
Barren Land									
Strip mines, quarries, and gravel pits	81	200	0.04	2.48	3,522	8,702	1.75	4,275.0	0.04
Other barren land	5,373	13,276	2.67	0.12	1,631	4,031	0.81	-229.6	2.43
County Total	200,915	496,455	100.00	100.00	200,915	496,455	100.00		100.00

Palmetto will continue to respond to residential development. Although some commercial support facilities will be required on the offshore islands because of residential growth, most commercial uses will be restricted to the central business district of Palmetto. With the advent of new transportation facilities and the imporvement of existing ones, highway-oriented commercial activity is expected to increase. In general, the continued industrialization of Port Manatee is the only industrial activity existing and projected for this portion of the county. Located adjacent to the Hillsborough County line near I-75, the Port Manatee/U.S. 41 heavy industrial complex will significantly affect Manatee's economy. Although presently nonexistent, the phosphate industry will have a significant effect on eastern portions of the county by 1985. The facilities at Port Manatee will permit shipment of phosphate from this area more economically than were it shipped from the facilities near Tampa. Furthermore, these improved facilities will attract other industries to the complex.

Similar to Palmetto, the county seat, Bradenton, is also expected to retain its present urban form. Residential, commercial, and industrial land uses will intensify and expand from their present locations; in addition, shorelines and access to major transportation facilities will continue to attract new forms of development.

Since most of the land outside Bradenton is undeveloped, the county has more room for orderly growth through DRIs and other residential developments. The relative attractiveness to a potential in-migrant population has compensated for no other major economic activities that boosted growth in other counties of the region. In general, future residential growth will continue to be attracted to the areas west and southwest of Bradenton. Anna Maria Key, Longboat Key, and the area surrounding Palma Sola Bay west of Bradenton will receive extensive residential development in the near future. Growth southeast of Bradenton will result from the continued influences of U.S. 41 and U.S. 301. New impetus for growth in this area is the accessibility to I-75. Commercial development throughout this portion of the county will continue in direct response to residential growth. Facilities will be primarily in the CBD, with some highway-oriented facilities along major arteries. As the Palmetto-Bradenton delimited area expands, large shipping complexes are expected next to principal highways. The corridor along U.S. 301 will be the major recipient of all projected industrial activity for the Bradenton urban area. This industrial belt will be located across the Sarasota County line north along U.S. 301 to the Manatee River; adjacent to the Sarasota-Bradenton Airport and significant transportation facilities, this area will provide future industries with access to major markets.

The portion of Manatee County east of I-75 is expected to retain its rural character. Although development within the towns of Myakka City, Manhatton, and Parrish is expected to intensify and expand, no significant change in their form is anticipated.

As previously mentioned, phosphate mining will be a dominant use of land by 1985 in northeastern and eastcentral Manatee County; the production of 10,000,000 tons is expected. Although phosphate mining will significantly affect the area during its operation, it is anticipated that it will cease by 2035. Phosphate mining can be considered a temporary land use in that the reclamation scheduled as part of the DRI process requires a plan of revegetation as mining progresses. By 2000, there will probably be less land in the "other barren land" category (Table 2.6), reflecting a more rapid transition from strip-mined to reclaimed lands.

A Florida Power & Light power plant located on the border between Manatee and Hillsborough counties should be reflected in the category "transportation, communication and utilities" in both 1985 and 2000 (Widmer 1977).

6. Polk County*

Growth rate in the first half of the 1970s significantly exceeded previous growth rates, and this trend is expected to continue for at least the next two or three decades. Land use patterns (Table 2.7) will reflect this population growth. A population of 360,300 by 1985 is projected, representing an average annual increase of slightly less than 4 percent. The population by the year 2000 is expected to be 470,400.

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*Approximately the eastern one-third of Polk County was outside the Four River Basins Study area. Discussions and tabulations include only that area within our 7-county study area.

Table 2.7. Polk County Generalized Land Use, 1975 and 2000

	1975			1985	2000				2035
Applicable LUDA Level I/Level II	Hectares	Acres	% of Study Area	% of Study Area	Hectares	Acres	% of Study Area	% Change: 1975-2000	% of Study Area
Urban or Built Up									
Residential	21,888	54,084	6.58	7.59	28,445	70,286	8.56	30.1	10.81
Commercial and services	2,138	5,282	0.64	0.73	2,537	6,270	0.76	18.8	0.85
Industrial	5,354	13,229	1.61	1.95	5,367	13,261	1.62	0.6	0.83
Transportation, communications, and utilities	1,800	4,447	0.54	0.54	1,777	4,392	0.54	0	0.52
Industrial and commercial complexes	-	-	-	0.10	324	800	0.09	800	-
Mixed urban or built-up areas	202	499	0.06	0.06	202	499	0.06	0	0.06
Other Urban or built-up areas	1,107	2,736	0.33	0.39	2,067	5,108	0.62	87.9	1.15
Agricultural Land									
Cropland and pasture	55,325	136,706	16.64	13.76	52,375	129,418	15.76	-5.6	20.39
Orchards and groves	44,933	111,027	13.53	12.91	42,048	103,900	12.66	-6.9	12.02
Other agricultural land	-	-	-	-	-	-	-	-	-
Rangeland	45,594	112,661	13.71	11.07	39,752	98,227	11.96	-14.6	14.02
Forest Land	24,515	60,576	7.37	3.36	14,940	36,916	4.50	-63.8	7.14
Water	24,484	60,500	7.36	7.56	25,127	62,087	7.56	2.7	7.56
Wetland	59,627	147,337	17.93	17.54	58,365	144,217	17.56	-2.1	17.58
Barren Land									
Strip mines, quarries, and gravel pits	41,580	102,742	12.50	16.73	39,461	97,508	11.88	-5.2	0.57
Other barren land	3,977	9,828	1.20	5.71	19,818	48,970	5.96	396.7	6.55
County Total	332,523	821,654	100.00	100.00	332,523	821,654	100.00		100.00

Major residential and associated land uses are projected for Davenport and near Dundee, especially the Cypresswood development. Much of the land in these tracts is intended for future development. The increase in population projected for these tracts will be accommodated through redevelopment or high-density development within specified areas.

A major residential development known as Imperialakes is located north of Mulberry and is oriented to Lakeland. This area represents the highest growth concentration in the county. The South Lakeland Area includes the unincorporated areas of Medulla and Highlands and represents the fastest growing area in Polk County.

Auburndale City, which is located at the crossroads of the Seaboard Coast Lines, U.S. 92, and other state highways, will expand its residential and commercial activities. The major urban centers of Polk County are, however, Lakeland and Winter Haven. Winter Haven is already greatly developed. The lakes in and around the city restrict possibilities for future expansion except through high-density development. Bartow and Haines City will exhibit an intensification of residential development to accommodate the projected increase in population. The towns of Dundee and Lake Hamilton on U.S. 27 also will expand.

Polk County's numerous lakes and forested areas could spur a rise in regional tourism, encouraging an expansion of trade and service industries. The network of highways and railroads will also stimulate growth, and pressures for development in the major urban centers like Lake Wales and Haines City will encourage growth west of these cities toward Winter Haven. Garden Grove, or Southeast Winter Haven, will continue to develop.

As an estimate of future mining activity, phosphate reserves are estimated to be 402,700,000 metric (444,000,000 short) tons in Polk County (Stowasser 1977). Because of its large phosphate mining areas, the southern portion of the county is not expected to experience any substantial increase in population before 1985; however, with the reclamation of the mining areas later, the rate of population growth is expected to increase in the northern part of the Mulberry, Eagle Lake-Winter Haven, and Bartow area. When most of the mining operations cease, there may be a concomitant increase in agricultural and pasture lands east and south of Lakeland. In 2000, however, much of the mined area will still be active. Mined lands undergoing reclamation probably will be classed as "other barren land" but probably will not be as extensive (19,818 hectares) as the 2000 projections indicate because of a more rapid reclamation pace. These reclaimed lands will command a high price and will be in demand (Joachim 1977). Most of the industrial sites associated with the phosphate mining activities will incorporate "mixed urban" land development once the phosphate mines cease to operate. Mixed urban land includes developments along transportation lines and in cities and other built-up area. Residential, commercial, and industrial land use may be included (Anderson et al 1976).

7. Sarasota County

The Gulf Coast, along with major transportation arteries, is expected to continue its significant role in the future development of Sarasota County. When I-75 paralleling U.S. 41 is completed, it will provide impetus for development, while the county's abundant Gulf shoreline will continue to provide the incentive. Accelerated urbanization and increased industrial activity is expected as soon as the I-75 thoroughfare is completed.

By 2000, most of the land area between I-75 and the Gulf Coast will be totally urbanized, the only exception being an area of rangeland southeast of the city of Sarasota; this area represents a "buffer" between two state parks, Oscar Scherer and Myakka River.

Based on the county's growth policies, future development will stem primarily from four urban centers: Sarasota, Venice, Englewood, and Warm Mineral Springs-North Port. The growth policies adopted by the Board of County Commissioners implement the recommended urban containment policy. Consequently, the 1985 county population is expected to be 237,900, only a 35 percent increase from 1975 estimates. To reach the probable population of 418,000 in 2000 and 560,000 in 2035, considerable reduction in growth rate is expected in the following decades.

Sarasota, the county seat, is expected to continue its dominance as the county's major center of development. In general, residential, commercial, and industrial land use categories will expand from their existing locations (Table 2.8). Growth in the northwestern part of Sarasota County, especially in the area just outside the city of Sarasota, will be influenced by the southerly

Table 2.8. Sarasota County Generalized Land Use, 1975 and 2000

Applicable LUDA Level I/Level II	1975 Hectares	 Acres	 % of Study Area	1985 % of Study Area	2000 Hectares	 Acres	 % of Study Area	% Change: 1975-2000	2035 % of Study Area
Urban or Built Up									
Residential	12,234	30,229	7.60	10.76	20,477	50,599	12.72	67.4	17.30
Commercial and services	1,132	2,798	0.70	0.99	1,650	4,076	1.02	45.7	1.10
Industrial	331	817	0.21	0.21	597	1,475	0.37	76.2	0.76
Transportation, communications, and utilities	2,219	5,482	1.38	1.38	2,219	5,482	1.38	0	1.38
Industrial and commercial complexes	117	290	0.07	0.07	117	290	0.07	0	0.07
Mixed urban or built-up areas	750	1,852	0.47	0.47	750	1,852	0.47	0	0.47
Other urban or built-up areas	10,579	26,140	6.51	6.67	10,928	27,002	6.79	4.3	7.09
Agricultural Land									
Cropland and pasture	18,310	45,244	11.37	10.28	15,919	39,335	9.89	-15.0	8.97
Orchards and groves	721	1,781	0.45	0.45	721	1,781	0.45	0	0.45
Other agricultural land	-	-	-	-	-	-	-	-	-
Rangeland	81,975	202,558	50.92	48.79	77,440	191,351	48.10	-5.9	46.50
Forest Land	12,701	31,383	7.90	7.87	12,505	30,900	7.76	-1.8	7.50
Water	800	1,976	0.50	0.50	800	1,976	0.50	0	0.50
Wetland	11,361	28,073	7.10	7.99	11,223	27,732	6.97	-1.9	6.93
Barren Land									
Strip mines, quarries, and gravel pits	123	305	0.08	0.08	123	305	0.08	0	0.08
Other barren land	7,638	18,872	4.74	4.51	5,522	13,644	3.43	-38.2	0.90
County Total	160,990	397,800	100.00	100.00	160,990	397,800	100.00		100.00

expansion of urban development in Manatee County. Development of the coastal area of the county will encourage tourism, which is one of the major factors for economic growth of the Tampa Bay region.

Residential growth in this portion of the county will continue its lateral expansion along major east-west transportation routes; Routes 683, 780, and SR 72 will be the principal catalysts for future development, although the north-south coastal highway U.S. 41 will continue to be an attraction. As in the past, the offshore islands surrounding Sarasota Bay will continue their accelerated development, albeit at a density rate less than at present.

Venice, located on the Gulf Coast in the central portion of the country, is expected to experience a future development pattern similar to Sarasota's, but to a lesser degree. Residential growth primarily will continue its lateral expansion along major east-west routes, with additional linear expansion north along U.S. 41 toward Sarasota and south along Route 775 to Englewood, although it is not expected to exceed its present bounds drastically. Most of the residential growth in this area will be absorbed by the North Port development, with some spillover into New Point Comfort in Charlotte County. The development of North Port east of Warm Mineral Springs along U.S. 41 and 75 is expected to be the largest in Sarasota County in terms of areal extent.

The presence of the I-75 interchange east of Venice will create an excellent opportunity for new industrial growth. Existing facilities are expected to expand, and new industrial activities will be located near the interchange. Also, the area east of Venice, now under "cropland-pasture," probably will become urbanized by 2000 because of its proximity to I-75 (Ollry 1977). As growth from Venice continues to expand, a corridor of development along Route 775 will be generated south toward the town of Englewood on Lemon Bay; similar to Sarasota's and Venice's, Englewood's future development is expected to expand from existing centers.

Waterfront development that would not destroy natural setting and would protect the environmental elements of the shoreline is proposed.

County Comprehensive Plan recommendations also include retention of agricultural land in the eastern portion of the county and between the urban centers.

The amount of land classed as residential in 2000 may be even more extensive than the 20,477 hectares (50,599 acres) indicated in Table 2.7 (Daltry 1977).

Although commercial activities in northwestern Sarasota County are primarily oriented toward tourism, future conditions indicate that it will have a diminishing effect on the area's economy.

Agriculture will remain the predominant use of land to the north and east of I-75, with dispersed residential and associated support commercial facilities. The land use categories "rangeland" and "cropland/pasture" will be the most common of the nonurban uses in 2000.

SECTION 3

SUMMARY

Despite the complexity of factors determining future land use, certain generalizations and predictions can be made regarding land use projections for the year 2000 in the 7-county study area.

Based on the general desirability of the area, residential expansion will continue. Precise development, however, depends on many factors — e.g., laws and regulations, the land's market value, individual landowners' decisions to buy or sell, and adequacy of natural resources.

SECTION 4

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APPENDIX 1

DEFINITIONS OF LAND USE AND LAND COVER CATEGORIES*

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*Source: Anderson et al 1976

APPENDIX 1

DEFINITIONS OF LAND-USE/LAND-COVER CATEGORIES

1 URBAN OR BUILT-UP LAND

"Urban or built-up land" comprises areas of intensive use, with structures covering much of the land. Included are cities, towns, and villages; strip developments along highways; transportation, power, and communications facilities; and areas such as those occupied by mills, shopping centers, industrial and commercial complexes, and institutions that may, in some instances, be isolated from urban areas.

11 RESIDENTIAL

Residential land uses range from high density (represented by the multiple-unit structures of urban cores) to low density (where houses are on lots of more than an acre) on the periphery of urban expansion. Linear residential developments along transportation routes extending outward from urban areas should be included as residential appendages to urban centers, but care must be exercised to distinguish them from commercial strips in the same locality: the residential strips generally have a uniform size and spacing of structures, linear driveways, and lawn areas; the commercial strips are more likely to have buildings of different sizes and spacing, large driveways, and parking areas. Residential development along shorelines is also linear and sometimes extends back only one residential parcel from the shoreline to the first road.

Areas of sparse residential land use (e.g., farmsteads) will be included in categories to which they are related unless an appropriate compilation scale is being used to indicate such uses separately. However, this category includes rural residential and recreational subdivisions, since the land is almost totally committed to residential use even though it may have forest or range types of cover.

12 COMMERCIAL AND SERVICES

Components of the "commercial and services" category are urban central business districts; shopping centers, usually in suburban and outlying areas); commercial strip developments along major highways and access routes to cities; junkyards; resorts; etc. They are areas used predominantly for the sale of products and services, but they are often abutted by residential, agricultural, or other contrasting uses which help define them. Also included are the main buildings, secondary structures, and areas supporting the basic use: office buildings, warehouses, driveways, sheds, parking lots, landscaped areas, and waste-disposal areas.

Commercial areas may include some noncommercial uses too small to be separated out; e.g., central business districts commonly include institutions such as churches and schools, and commercial strip developments may include some residential units. Institutional land uses such as the various educational, religious, health, correctional, and military facilities are components. All buildings, grounds, and parking lots that compose the facility are included within the institutional unit, but areas not specifically related to the purpose of the institution should be placed in the appropriate category. When noncommercial uses exceed one-third of the total commercial area, the "mixed urban or built-up" category should be used.

There is no separate category for recreational land uses at Level II, since most recreational activity is pervasive throughout many other land uses. Selected areas are predominantly recreation-oriented, and some of the more distinctive occurrences such as drive-in theaters can be identified on remote-sensor imagery. Most recreational activity, however, necessarily will be identified using supplemental information. Recreational facilities that form an integral part of an institution should be included in this category. There is usually a major visible difference in the form of parking facilities, arrangements for traffic flow, and the general association of buildings and facilities. The intensively developed sections of recreational areas would be included in the "commercial and services" category, but extensive parts of golf courses, riding areas, etc. would be included in the "other urban or built-up" category.

13 INDUSTRIAL

Industrial areas include a wide array of land uses, from light manufacturing to heavy manufacturing plants. Light industries (those focused on design, assembly, finishing, processing, and packaging of products) can often be identified by type of building, parking, and shipping arrangements. Heavy industries (e.g., steel mills, pulp and lumber mills, electric-power generating stations, oil refineries and tank farms, chemical plants, and brick-making plants) use and stockpile raw materials such as iron ore, timber, or coal; raw materials and waste-product disposal areas as well as transportation facilities capable of handling heavy materials are usually visible.

Surface structures and equipment associated with mining operations are included in this category. These may range from a loading device and trucks to extensive access roads, processing facilities, stockpiles, storage sheds, and numerous vehicles. Spoil material and slag heaps are usually within a short trucking distance of the major mine areas and may be the key indicator of underground mining operations. It is extremely difficult to uniformly identify all of these diverse extractive uses with only remote sensor data.

Areas of future reserves are included in the appropriate present-use category (e.g., "agricultural land" or "forest land") regardless of the expected future use.

14 TRANSPORTATION, COMMUNICATIONS, AND UTILITIES

The land uses included in "transportation, communications, and utilities" occur to some degree within all of the other "urban or built-up" categories and actually can be found within many other categories; unless they can be mapped separately at whatever scale is being employed, they usually are considered an integral part of the land use within which they occur.

Major transportation routes and areas greatly influence other land uses and outline many land use boundaries. The types and extent of transportation facilities in a locality determine the degree of access and affect both the present and potential use of the area.

Highways and railways are characterized by areas of activity connected in linear patterns. Highways include rights-of-way, interchanges, and service and terminal facilities. Rail facilities include stations, parking lots, roundhouses, repair and switching yards, and related areas, as well as overland track and spur connections of sufficient width for delineation at mapping scale.

Airports, seaports, and major lakeports are isolated areas of high utilization, usually with no well-defined intervening connections, although canals connect some ports.

Also included in this category are communications and utilities areas such as those involved in processing, treating, and transporting water, gas, oil, and electricity and areas used for airwave communications.

15 INDUSTRIAL AND COMMERCIAL COMPLEXES

"Industrial and commercial complexes" include industrial and commercial land uses that typically occur together or in close functional proximity. Such areas commonly are labeled with terminology such as "industrial park;" however, since functions such as warehousing, wholesaling, and occasionally retailing may be found in the same structures or nearby, the more inclusive category title has been adopted.

Industrial and commercial complexes have a definite remote-sensor image signature which permits them to be separated from other "urban or built-up" land uses. Because of their intentional development as discrete units of land use, they may border on a wide variety of other land use types, from "residential land" to "agricultural land" to "forest land."

16 MIXED URBAN OR BUILT-UP LAND

The "mixed urban or built-up" category is used for a mixture of Level-II "urban or built-up" uses where individual uses cannot be separated at mapping scale. If a specific area has more than one-third intermixture of another use or uses, it is classified as "mixed urban or built-up;" if the intermixed land use or uses total less than one-third of the specific area, the category appropriate to the dominant land use is applied.

This category typically includes developments along transportation routes and in cities, towns, and built-up areas where separate land uses cannot be mapped individually.

17 OTHER URBAN OR BUILT-UP LAND

"Other urban or built-up land" typically consists of uses such as golf driving ranges, zoos, urban parks, cemeteries, waste dumps, water control structures and spillways, the extensive parts of such uses as golf courses and ski areas, and undeveloped land within an urban setting. The use of open land may be very intensive but not require structures (e.g., urban playgrounds, botanical gardens, or arboreta).

In categorizing undeveloped lands within urban areas on the basis of remote sensor data, descriptions such as "idle land," "vacant land," or "open land" should be avoided; the interpreter generally does not have sufficient information with which to make such a refinement in categorization.

2 AGRICULTURAL LAND

"Agricultural land" may be defined broadly as land used primarily for production of food and fiber. Chief indications on high-altitude imagery are distinctive geometric field and road patterns and traces produced by livestock or mechanized equipment. However, this may not be well-defined on pasture and other lands on which such equipment is infrequently used. Also, such distinctive geometric patterns are characteristic of "urban or built-up" lands because of street layout and development by blocks.

Ordinarily, it should be possible to distinguish between "agricultural" and "urban or built-up" lands on the basis of urban-activity indicators and the associated concentration of population. The number of building complexes is smaller, and agricultural land has a much lower density of road and highway network than does urban or built-up land.

The interface of "agricultural land" with other categories may sometimes be a transition zone in which there is an intermixture of land uses at first and second levels of categorization. Where wetness limits farming activities, the exact boundary may be difficult to locate and "agricultural land" may grade into "wetland." When wetland conditions do not hinder the production of agricultural crops, the cropland should be included in the "agricultural" category. When wetlands are drained for agricultural purposes, they should be included in the "agricultural" category; when such drainage enterprises fall into disuse and wetland vegetation is reestablished, the land reverts to the "wetland" category.

The Level-II categories of agricultural land are "cropland and pasture;" "orchards, groves, vineyards, nurseries, and ornamental horticultural areas;" "confined feeding operations;" and "other agricultural land."

21 CROPLAND AND PASTURE

The several components of "cropland and pasture" now used for agricultural statistics are cropland harvested, including bush fruits; cultivated summer-fallow and idle cropland; land on which crop failure occurs; cropland in soil-improvement grasses and legumes; cropland used only for pasture in rotation with crops; and pasture on land more or less permanently used for that purpose. Generally, it is not possible to distinguish between cropland and pasture with a high degree of accuracy and uniformity using imagery alone, let alone make distinctions among the various components of cropland (Hardy, Belcher, and Phillips 1971). Moreover, some of the components listed represent the condition of the land at the end of the growing season and do not apply exactly to imagery taken at other times of the year; they will, however, be a guide to identifying cropland and pasture.

Brushland in the eastern states, typically used to some extent for pasturing cattle, is included in the "shrub-brushland-rangeland" category since the grazing activity is usually not discernible on remote-sensor imagery appropriate to Levels I and II.

Drainage or water control on land used for cropland and pasture may create a recognizable pattern that may aid in identifying the land use. In areas of quick-growing crops, a field may appear to be in nonagricultural use unless the temporary nature of the inactivity is recognized.

22 ORCHARDS, GROVES, VINEYARDS, NURSERIES, AND ORNAMENTAL HORTICULTURAL AREAS

Orchards, groves, and vineyards produce the various fruit and nut crops. Nurseries and horticultural areas, which include floricultural and seed-and-sod areas and some greenhouses, are used perennially for those purposes. Also included are tree nurseries which provide seedlings for plantation forestry.

Isolated small orchards (e.g., fruit trees on a family farm) usually are not recognizable on high-altitude imagery and therefore are not included.

23 CONFINED FEEDING OPERATIONS

"Confined feeding operations" are large, specialized livestock production enterprises, chiefly beef cattle feedlots, dairy operations with confined feeding, and large poultry farms but also including hog feedlots.

"Confined feeding operations" have a built-up appearance, chiefly because of buildings, much fencing, access paths, and waste disposal areas. Some are located near an urban area to take advantage of transportation facilities and proximity to processing plants.

24 OTHER AGRICULTURAL LAND

Other land uses typically associated with the first three categories of "agricultural land" are principal components of the "other agricultural land" category. They include farmsteads, livestock holding areas such as corrals, breeding and training facilities on horse farms, farm lanes and roads, ditches and canals, small farm ponds, and similar uses. The areas are generally quite small and often uninterpretable by use of high-altitude data; even when they are interpretable from such data, it may not be feasible to map them at smaller presentation scales, which generally results in their inclusion with adjacent agricultural-use areas.

3 RANGELAND

"Rangeland" historically has been defined as land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs and on which natural herbivory was an important influence in its precivilization state. The historical connotation of "rangeland" is expanded in this classification to include eastern areas commonly called "brushlands."

31 HERBACEOUS RANGELAND

The "herbaceous rangeland" category encompasses lands dominated by naturally occurring grasses and forbs, as well as areas of actual rangeland that have been modified to include grasses and forbs as their principal cover and land managed for rangeland purposes and not managed using typical pastureland practices.

This cateogry includes the palmetto prairie areas of south-central Florida, which consist mainly of dense stands of medium-length and tall grasses such as wiregrass (*Aristida stricta*) and saw palmettos (*Seronoa ripens*), interspersed occasional palms (*Sabal palmetto*), and shrubs (Shelford 1963). This category does not include palmetto prairie areas now in improved pasture.

32 MIXED RANGELAND

When a specific area is more than one-third intermixture of either herbaceous or shrub and brush rangeland species, it is classified as "mixed rangeland." If the intermixed land use or uses total less than one-third of the specific area, the category appropriate to the dominant type of rangeland is applied.

4 FOREST LAND

"Forest lands" have a tree-crown areal density (crown closure percentage) of 10 percent or more, are stocked with trees capable of producing timber or other wood products, and influence the climate or water regime. Generally, forest land is easily identified on high-altitude imagery, although the boundary between it and other categories may be difficult to delineate precisely.

Also included are lands from which trees have been removed to less than 10 percent crown closure but which have not been developed for other uses (e.g., lands on which there are rotation cycles of clearcutting and blockplanting). When trees reach marketable size on such lands (which may occur in 2 to 3 decades for pulpwood in the southeastern U.S.), there will be large areas having little or no visible forest growth; the pattern can sometimes be identified by the presence of cutting operations in the midst of a large expanse of forest. Unless there is evidence of other use, such areas of little or no forest growth should be included in the "forest land" category.

Forest land which is grazed extensively, as in the southeastern states, would be included in this category since the dominant cover is forest and the dominant activities are forest-related.

Lands that meet the requirements for "forest land" and also for an "urban or built-up" category should be placed in the latter. The only exceptions in classifying forest land are those areas which would otherwise be classified as "wetland" if not for the forest cover. Since the wet condition is of much interest to land managers and planning groups and is so important as an environmental surrogate and control, such lands are classified as "forested wetland."

Auxiliary concepts associated with "forest land" (e.g., wilderness reservation, water conservation, or ownership classification) are not detectable using remote-sensor data but may be used for creating categories at the more detailed levels when supplemental information is available.

At Level II, "forest land" is divided into three categories: "deciduous," "evergreen," and "mixed." To differentiate these three categories effectively, it is generally necessary to use sequential data or at least data acquired while the deciduous trees are bare.

41 DECIDUOUS FOREST LAND

"Deciduous forest land" includes all forested areas having a predominance of trees that lose their leaves at the end of the frost-free season or at the beginning of a dry season. In most parts of the U.S., these would be hardwoods such as oak (Quercus), maple (Acer), or hickory (Carya),and "soft" hardwoods such as aspen (Populus tremuloides) (Shelford 1963). Deciduous forest types characteristic of wetland, [tupelo (Nyssa) or cottonwood (Populus deltoides)] are not included, nor are tropical hardwoods.

42 EVERGREEN FOREST LAND

"Evergreen forest land" includes all forested areas dominated by trees that remain green throughout the year. This includes both coniferous and broad-leaved evergreens, but the former predominate in most areas (some of the forest of Hawaii being notable exceptions).

The coniferous evergreens, commonly referred to or classified as softwoods, include such eastern species as longleaf pine (Pinus palustris), slash pine (Pinus ellioti), shortleaf pine (Pinus echinata), loblolly pine (Pinus taeda), and other southern yellow pines; various spruces (Picea) and balsam fir (Abies balsamea); white pine (Pinus strobus), red pine (Pinus resinosa), and jack pine (Pinus banksiana); hemlock (Tsuga canadensis); and such western species as Douglas fir (Pseudotsuga mensiesii), redwood (Sequoia sempervirens), ponderosa pine (Pinus monticoia), Sitka spruce (Picea sitchensis), Engelmann spruce (Picea engelmanni), western redcedar (Thuja plicata), and western hemlock (Tsuga heterophylla) (Shelford 1963).

Not included in this category are evergreen species commonly associated with wetland — tamarack (Larix laricina) or black spruce (Picea mariana) (Kuchler 1964).

43 MIXED FOREST LAND

"Mixed forest land" includes all forested areas in which there are both evergreen and deciduous trees but neither predominates; if a specific area has more than one-third intermixture of either, it is classified as "mixed forest land."

5 WATER

Delineation of water areas depends on the scale of data presentation and the scale and resolution characteristics of the remote sensor data used for interpreting land use and cover. "Water," as defined by the Bureau of the Census, includes all areas within the landmass of the United States that persistently are water-covered, provided that, if linear, they are at least 1/8 mile (200 meters) wide and, if extended, cover at least 40 acres (16 hectares); however, for many purposes, agencies need information on the size and number of water bodies smaller than the Bureau of the Census minimums, and these frequently can be obtained with considerable accuracy from small-scale remote sensor data.

51 STREAMS AND CANALS

The "streams and canals" category includes rivers, creeks, canals, and other linear water bodies. If the water course is interrupted by a control structure, the impounded area is placed in the "reservoirs" category. The boundary between streams and other bodies of water is the straight line across the mouth of the stream up to 1 nautical mile (1.85 kilometers); beyond that, the classification of the water body changes to the appropriate category, whether it be "lakes," "reservoirs," or "bays and estuaries." These latter categories are used only if the water body is considered to be "inland water" and therefore included in the total area of the United States. No category is applied to waters classified as "other than inland water" or offshore marine waters beyond the mouths of rivers (U.S. Bureau of Census 1970).

52 LAKES

Lakes are nonflowing, naturally enclosed bodies of water. Regulated natural lakes are included, but reservoirs are excluded. Islands too small to delineate should be included in the water area.

Delineation of a lake should be based on the areal extent of water at the time the remote sensor data are acquired.

53 RESERVOIRS

Reservoirs are artificial impoundments of water for irrigation, flood control, municipal water supplies, recreation, hydroelectric power generation, etc. Dams, levees, other water control structures, or the excavation itself aid identification; however, the water control structures themselves and spillways are included in the "other urban or built-up land" category.

In most cases, reservoirs serve multiple purposes and may include all of the land use functions just mentioned.

54 BAYS AND ESTUARIES

Bays and estuaries are inlets or arms of the sea that extend inland. They are included in this category only when considered to be inland water and therefore within the total area of the United States.

Bay and estuarine water areas classified as "other than inland water" are adjacent to certain states and fall under their jurisdiction but are not included within the total area of the United States.

6 WETLAND

Wetlands are areas in which the water table is at, near, or above the land surface for a significant part of most years. The hydrologic regime is such that aquatic or hydrophytic vegetation usually is established, although alluvial and tidal flats may be nonvegetated. Wetlands frequently are associated with topographic lows, even in mountainous regions. Marshes, mudflats, and swamps situated on the shallow margins of bays, lakes, ponds, streams, and manmade impoundments such as reservoirs are wetlands. Included are wet meadows or perched bogs in high mountain valleys and seasonally wet or flooded basins, playas, or potholes with no surface-water outflow. Shallow water areas where aquatic vegetation is submerged are classed as open water and are not included in the "wetland" category.

Extensive parts of some river floodplains qualify as "wetlands," as do areas of regularly flooded irrigation overflow; this does not include agricultural land where seasonal wetness or short-term flooding may provide an important component of the total annual soil moisture necessary for crop production. Areas in which soil wetness or flooding is so short-lived that no typical wetlands vegetation is developed properly belong in other categories. Cultivated wetlands such as flooded fields associated with rice production and developed cranberry bogs are classified as "agricultural land," but uncultivated wetlands from which wild rice, cattails, or wood products are harvested or wetlands grazed by livestock are retained in the "wetland" category.

Vegetation types and detectable surface water or soil moisture interpreted from remote sensor data provide the most appropriate means of identifying wetlands and wetland boundaries. Inasmuch as vegetation responds to changes in moisture conditions, remote sensor data acquired over a period of time permits detection of fluctuations in wetland conditions. Ground surveys of soil types or the duration of flooding may provide supplemental information for the more detailed levels of classification.

Wetland areas drained for any purpose belong to other land use and cover categories such as "agricultural land," "rangeland," "forest land," or "urban or built-up land." If the drainage is discontinued and such use ceases, classification may revert to "wetland." Wetlands managed for wildlife purposes may show short-term changes in land use as different management practices are used but are properly classified as "wetland."

With respect to wetland discrimination, two separate boundaries are important: the upper wetland boundary, above which practically any category of land use or land cover may exist; and the boundary between wetland and open water, beyond which the appropriate "water" category should be employed.

The Level II categories of "wetland" are "forested wetland" and "nonforested wetland."

61 FORESTED WETLAND

Forested wetlands are wetlands dominated by woody vegetation. Because they can be detected and mapped by the use of seasonal (winter/summer) imagery and need to be delineated for many environmental planning activities, they are separated from other categories of "forest land."

"Forested wetland" includes seasonally flooded bottomland hardwoods, mangrove swamps, shrub swamps, and wooded swamps, including those around bogs. The following are examples of typical vegetation: wooded swamps and southern floodplains contain primarily cypress (Taxodium), tupelo (Nyssa), oaks (Quercus), and red maple (Acer rubrum); mangroves (Avicennia and Rhizophora) dominate certain subtropical areas; central and northern floodplains are dominated by cottonwoods (Populus), ash (Fraxinus), alder (Alnus), and willow (Salix); southwestern floodplains may be dominated by mesquite (Prosopis), saltcedar (Tamarix), seepwillow (Baccharis), and arrowweed (Pluchea), northern bogs typically contain tamarack or larch (Larix), black spruce (Picea mariana), and heath shrubs (Ericaceae); and shrub swamp vegetation includes alder (Alnus), willow (Salix), and buttonbush (Cephalanthus occidentalis).

62 NONFORESTED WETLAND

Nonforested wetlands are dominated by wetland herbaceous vegetation or are nonvegetated. Included are tidal and nontidal fresh, brackish, and salt marshes and nonvegetated flats as well as freshwater meadows, wet prairies, and open bogs.

The following are examples of vegetation associated with "nonforested wetland:" narrow-leaved emergents such as cordgrass (*Spartina*) and rush (*Juncus*) dominate coastal salt marshes; not only narrow-leaved emergents such as cattail (*Typha*), bulrush (*Scirpus*), sedges (*Carex*), sawgrass (*Cladium*) and other grasses (for example, *Panicum* and *Zizaniopsis miliacea*) are typical of brackish to freshwater locations but also broad-leaved emergents such as water-lily (*Nuphar*, *Nymphea*), pickerelweed (*Pontederia*), arrow arum (*Peltandra*), arrowhead (*Sagittaria*), water hyacinth (*Eichhornia crassipes*), and alligatorweed (*Alternanthera philoxeroides*); and mosses (*Sphagnum*) and sedges (*Carex*) grow in wet meadows and bogs.

7 BARREN LAND

An area limited in its ability to support life and having vegetation or other cover on less than one-third is classified as "barren." It is generally an area of thin soil, sand, or rocks. Vegetation, if present, is more widely spaced and scrubby than in the "shrub and brush" category of "rangeland." Occasionally, unusual conditions such as heavy rainfall result in growth of a short-lived, more luxuriant plant cover.

Land may appear barren because of man's activities. When it may reasonably be inferred from the data source that the land will be returned to its former use, it is not included in the "barren" category but is classified on the basis of its site and situation. Agricultural land, for example, may be temporarily without vegetative cover because of cropping season or tillage practices. Similarly, industrial land may have waste and tailing dumps, and areas of intensively managed forest land may have clearcut blocks. When neither former nor future use can be discerned and the area is obviously in a state of land use transition, it is considered to be "barren land" in order to avoid inferential errors.

Level II categories of "barren land" are "dry salt flats," "beaches;" "sandy areas other than beaches;" "bare exposed rock;" "strip mines, quarries, and gravel pits;" "transitional areas;" and "mixed barren land."

71 DRY SALT FLATS

Dry salt flats occurring on the flat-floored bottoms of interior desert basins which do not qualify as wetland are included in this category.

72 BEACHES

Beaches are the smooth sloping accumulations of sand and gravel along shorelines. Inland, the surface is stable. The shoreward part is subject to erosion by wind and water and to deposition in protected areas.

73 SANDY AREAS OTHER THAN BEACHES

"Sandy areas other than beaches" are primarily dunes (accumulations of sand transported by the wind) most commonly occurring in deserts but also occurring on coastal plains, river floodplains, and deltas and in periglacial environments.

74 BARE EXPOSED ROCK

The "bare exposed rock" category includes areas of bedrock exposure, desert pavement, scarps, talus, slides, volcanic materials, rock glaciers, and other accumulations of rock without vegetative cover.

75 STRIP MINES, QUARRIES, AND GRAVEL PITS

Extractive mining activities having significant surface expression are included in this category. In other words, vegetative cover and overburden have been removed to expose such deposits as phosphate, coal, iron ore, limestone, and copper, and large open surface pits have resulted from the mining of phosphate and the recovery of sand and gravel deposits. Current mining activity is not always distinguishable.

Inactive, unreclaimed, and active strip mines, quarries, borrow pits, and gravel pits are included in this category until other cover or use has been established, after which the land is classified according to the resulting use or cover. Unused pits or quarries that have been flooded, however, are placed in the appropriate "water" category.

76 TRANSITIONAL AREAS

Transitional areas are characterized by the lack of any remote-sensor information that would enable the land use interpreter to predict reliably the future use or discern the past use; one can determine only that a transition is in progress. Inference about past or future use should be avoided.

This transitional phase occurs when, for example, forest lands are cleared for agriculture, wetlands are drained for development, or any type of land use ceases as areas become temporarily bare for planned future construction of residences, shopping centers, industrial sites, or suburban and rural residential subdivisions. Filling such as occurs in spoil dumps or sanitary landfills is also indicative of this transitional phase.

77 MIXED BARREN LAND

The "mixed barren land" category is used when there is a mixture of barren land features and the dominant land use occupies less than two-thirds of the area. Where more than one-third intermixture of another use or uses occurs in a specific area, it is classified as "mixed barren land;" if the intermixed land use or uses total less than one-third of the specific area, the category appropriate to the dominant type of barren land is applied.

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APPENDIX 2

METHODOLOGY FOR PROJECTING LAND USE

APPENDIX 2

METHODOLOGY

The methodology utilized in the Four River Basins Economic Base Study (U.S. Army Corps of Engineers 1976) for developing the future land use section of this study included the following:

- Projected population and economic growth and concomitant land requirements for various sectors of the economy. (These projections are presented in Chapter 2 of this volume.)
- Existing land use and transportation facilities, the framework for additional growth.
- Natural resource characteristics as they limit or support urban, agricultural, and other land activities. (Topography and soil suitability are two examples of these limiting natural features.)
- Governmental plans, policies, and regulations at federal, state, and local levels that guide and control location and intensity of land uses and the conservation or preservation of natural resources. County and regional land use plans, State Coastal Zone Management, the State Comprehensive Plan, and regulations of the Southwest Florida Water Management District [SWFWMD] are examples [U.S. Army Corps of Engineers 1976]).

The section of this volume that inventories and examines future land use on a county-by-county basis also utilizes the future land use maps included in an atlas accompanying the Four River Basins Study. Two sets of maps illustrating patterns of future land use in 1985 and 2035 in each study-area county were included in this atlas. Each set of maps depicts the location and amount of urban, agricultural, and other types of land use corresponding to several LUDA Level I and Level II categories as described in Chapter 3 of this volume.

Development of the 1985 and 2035 land use maps required a more specific methodology than that previously mentioned for the Four River Basins Study's text on future land use. Basic steps included:

- An urban land use allocation

- Application of certain "displacement expectations" on land use categories other than urban (U.S. Army Corps of Engineers 1976).

Amounts of major urban land uses (e.g., residential, commercial, and industrial) were projected for each county based on:

- Existing (1975) urban land use and transportation patterns

- Proposed major land developments (including assessment of Development of Regional Impact documents)

- Regional, county, and municipal land use plans and policies

- Availability and character of open space (agricultural and other rural land uses)

- Natural-resource constraints

The maps developed for the study do not precisely depict official local land use plans and should not be construed as approved or accepted policy. However, the potential impact of any future land use mapping activity by a governmental agency must be considered; therefore, generally more than the projected amounts of urban land uses are shown on the 1985 and 2035 maps to minimize whatever impact these maps may have on land speculation and price variation that often accompany changes in land use designation. This excess designation compensates for shortcomings in and local exceptions to the assumptions and methodology used in deriving the projections.

Displacement expectations due to expansion of urban land uses have affected categories other than the urban-related ones. Certain premises were considered when projecting these future land uses. For example, the urban land use allocation methodology avoided encroachment on the "agricultural land" and "wetland" categories wherever possible, as well as on the "forest land" and "water" categories. The "rangeland" and "barren land" categories can accommodate most new urban growth projected in the study area if insured by public policy; if not, agricultural land and critical natural-resource areas are vulnerable to continuing displacement. Barren lands classified as "strip mines, quarries, and gravel pits" (largely phosphate mining operations) are projected to increase in total study-area acreage as new areas of Hardee, Manatee, and DeSoto are put into active exploration and development. By 2035, however, phosphate mining is expected to be virtually phased out in central Florida. Over the years, significant amounts of formerly mined areas will be available for reclamation.

As an additional premise in displacement expectations, no existing forest land, wetland, or water area (LUDA categories 4, 5, and 6) have been encroached upon insofar as possible by new residences. Furthermore, only the least amount of existing agricultural land (LUDA category 2) has been redesignated for residential use. The lands primarily for residential expansion are:

- Proposed locations for major residential development (including DRIs)
- Existing areas classified as "barren" lands (LUDA category 7)
- Existing areas classified as "rangeland" (LUDA category 3)

Land use projections to the year 2000 were determined through analysis and comparison of the 1985 and 2035 land use maps (and accompanying test) and the current land use maps (included in Chapter 3 of this volume). The 2035 map was overlaid on both the 1985 and 1975 maps and analyzed for each county in the study area as to changes in patterns and amounts of land in the various categories. Conferences with county and regional planners, in which the actual maps were examined and critiqued, added to the validity of the future (2000) land use map (Plate 8 in pocket).

APPENDIX 3

DEVELOPMENTS OF REGIONAL IMPACT, 1973-76

APPENDIX 3

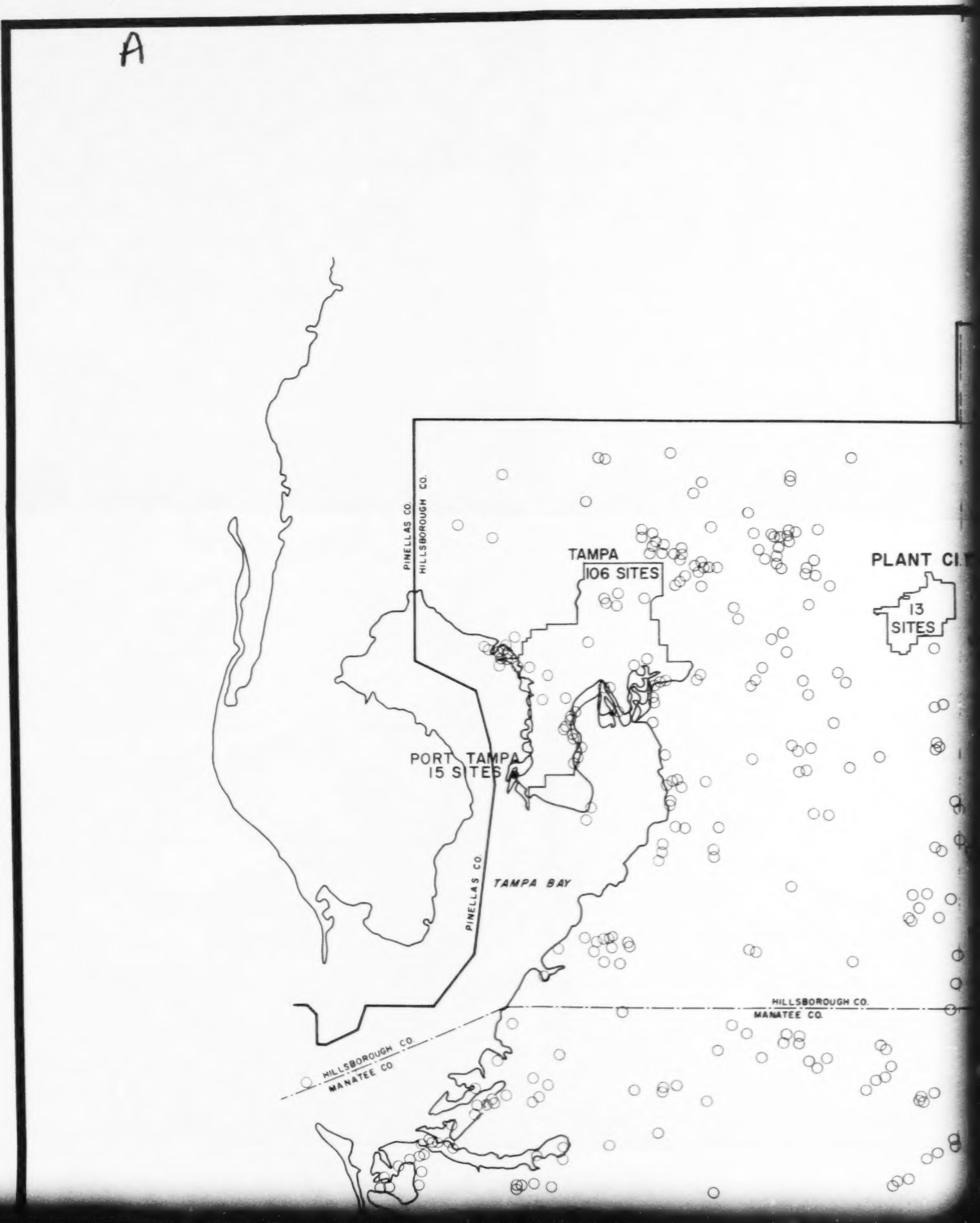
DEVELOPMENTS OF REGIONAL IMPACT, 1973-76*

Filed Fiscal Year	DRI Name	Type	Developer	County
1973-74	Lonesome Mine	Mining	Brewster Phosphates	Hillsborough
1973-74	Arrowhead	Residential	A.T. Stolen, Agent	Polk
1973-74	Horatio	Residential	James L. Carter, Jr., Agent	Hillsborough/ Brandon
1973-74	Big Bend Station	Petroleum	Tampa Electric Company	Hillsborough
1973-74	Beneva Lakes Community**	Residential	U.S. Home of Florida	Sarasota
1973-74	Community Alpha**	Residential	Mode, Inc. & Commonwealth Resources, Inc.	Sarasota
1973-74	Clark Road Shopping**	Shopping	Edward J. DeBartolo	Sarasota
1973-74	Carrollwood Village	Residential	Sunstate Builders, Inc.	Hillsborough
1973-74	Tampa Northwest Ltd.	Shopping	Rouse Company	Hillsborough
1973-74	Bonanza**	Residential	Land & Leisure, Inc.	Polk
1973-74	Deer Run	Residential	Punta Gorda Isles, Inc.	DeSoto/ Charlotte
1973-74	Clean Fuel Processing Facility**	Petroleum	Belcher Oil Company	Manatee
1973-74	Wet Phosphate Rock Terminal	Port	Agrico Chemical Company	Hillsborough
1973-74	Lakeland Shopping Mall	Shopping	Edward J. DeBartolo Corp.	Polk
1973-74	Port of Manatee	Petroleum	Florida Power & Light	Manatee
1973-74	Capri Isles 2	Residential	Walton, Madde, Cooper, Inc.	Sarasota
1973-74	Eastlake Square Mall	Shopping	J.E. Greiner Co., Inc.	Hillsborough
1973-74	The Meadows	Residential	David Nash, Taylor, et al	Sarasota
1973-74	Kingsford Tract	Mining	International Minerals	Hillsborough
1973-74	Beker Phosphate Mine**	Mining	Beker Phosphate Corp.	Manatee
1973-74	Brandon Regional Shopping Center	Shopping	Lamonte Shimberg	Hillsborough
1973-74	Arlen Shopping Center	Shopping	Arlen Realty & Development Corp.	Sarasota
1973-74	Dominion	Residential	W.G. Development Corp.	Hillsborough
1973-74	Myakka Estates	Residential	General Development	Sarasota
1973-74	Colony Lemon Bay Mobile Home Park	Residential	Colony Management	Charlotte
1974-75	Lake Wales Jai Alai	Recreational	World Jai Alai, Inc.	Polk
1973-75	Jai Alai Fronton**	Recreational	Polk Centennial, Inc.	Polk
1974-75	Bloomingdale Project	Residential	Lamonte Shimberg	Hillsborough
1974-75	Beker Phosphate Mine	Mining	Beker Phosphate Corp.	Manatee
1974-75	Myakka Estates	Residential	General Development Corp.	Sarasota
1974-75	Lake Wales Fronton	Recreational	Arthur W. Silvester	Polk
1974-75	Harbor Ventures	Residential	Dewey A. Dye, Jr.	Manatee
1974-75	Jacaranda West	Residential	Gulfstream Land & Development Co.	Sarasota
1974-75	Agrico Port	Port	Agrico Chemical Company	Hillsborough
1974-75	Phosphate Mine	Mine	Phillips Petroleum Company	DeSoto
1974-75	Borden Big 4 Phosphate	Mine	Borden, Inc.	Hillsborough
1975-76	Four Corners Mine	Mine	W.R. Grace Company	Hillsborough/ Manatee
1975-76	Hillsborough Regional Service Center	Office Park	Dept. of General Services	Hillsborough
1975-76	Imperial Lakes	Residential	URS, Inc.	Polk
1975-76	Pt. Sutton Petroleum Storage	Petroleum Storage	Western Fuels, Inc.	Hillsborough
1976-77	Hardee Co. Phosphate Mine	Mining	C.F. Industries	Hardee

*Includes all DRIs for 7-county study area filed during fiscal years 1973-76. Sources: Florida Department of Administration *Developments of Regional Impact* status as of June 30, 1976, FY 73-74 (6-page mimeo), FY 74-75 (3-page mimeo), and FY 75-76 (2-page mimeo).

**Denotes that DRI was denied or withdrawn.

*U.S. GOVERNMENT PRINTING OFFICE: 1978-640-925/6194. Region 4.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PORT TAMPA
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MANATEE CO.
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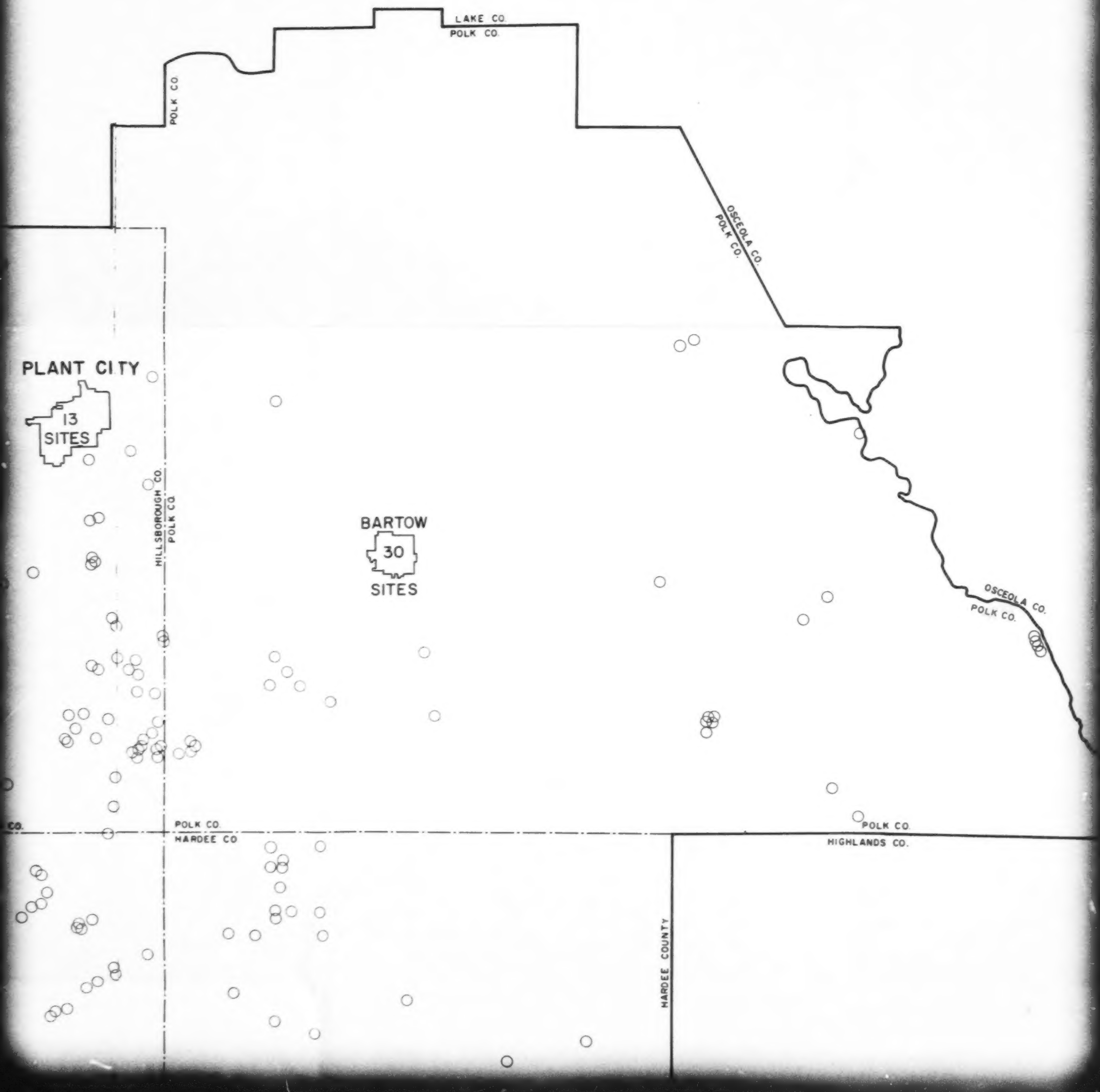
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HARDEE COUNTY

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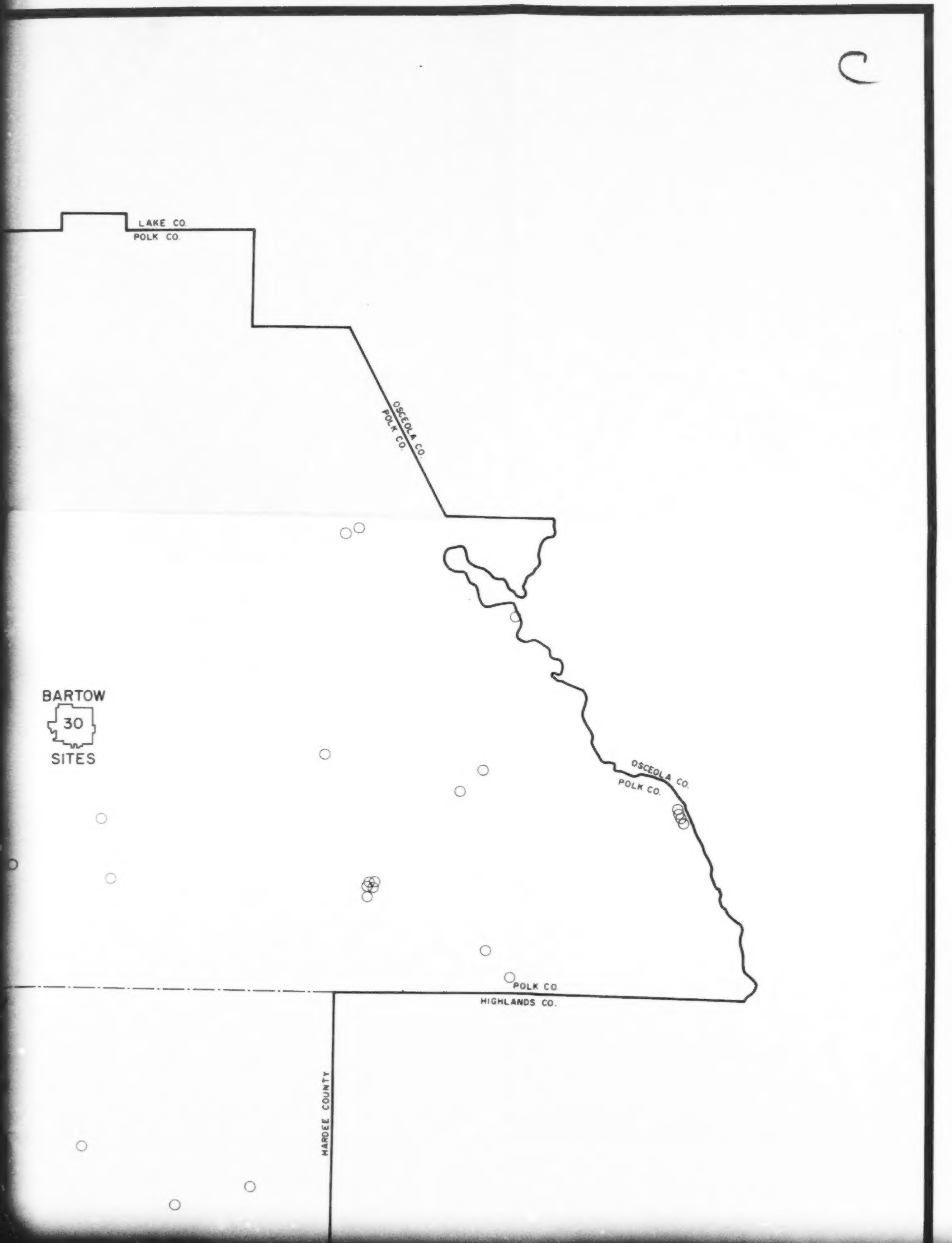

LAKE CO.
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OSCEOLA CO.
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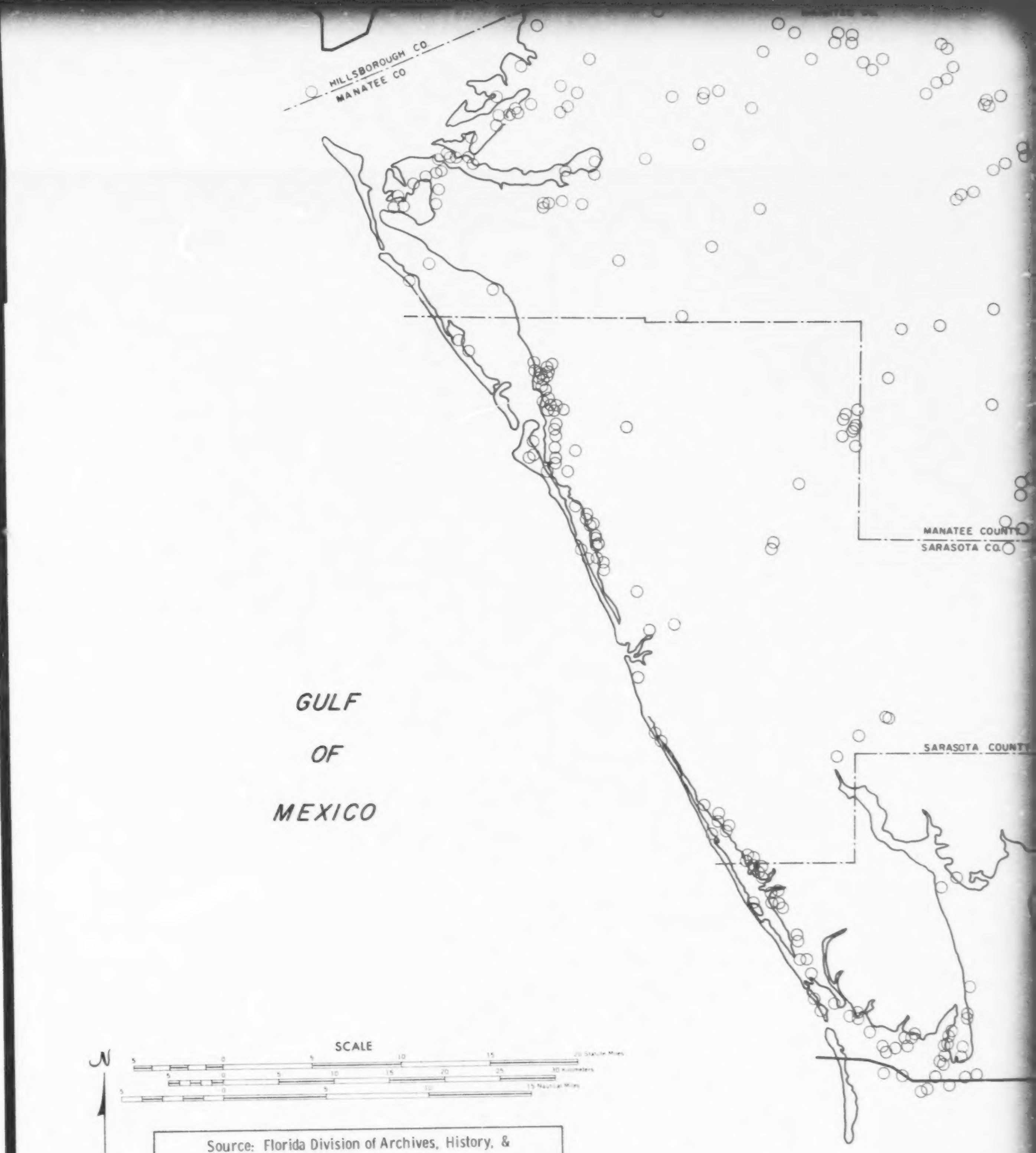
HIGHLANDS CO.
HARDEE COUNTY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LOCATION OF STUDY AREA WITHIN FLORIDA

Source: Florida Division of Archives, History, & Records Management, 1976

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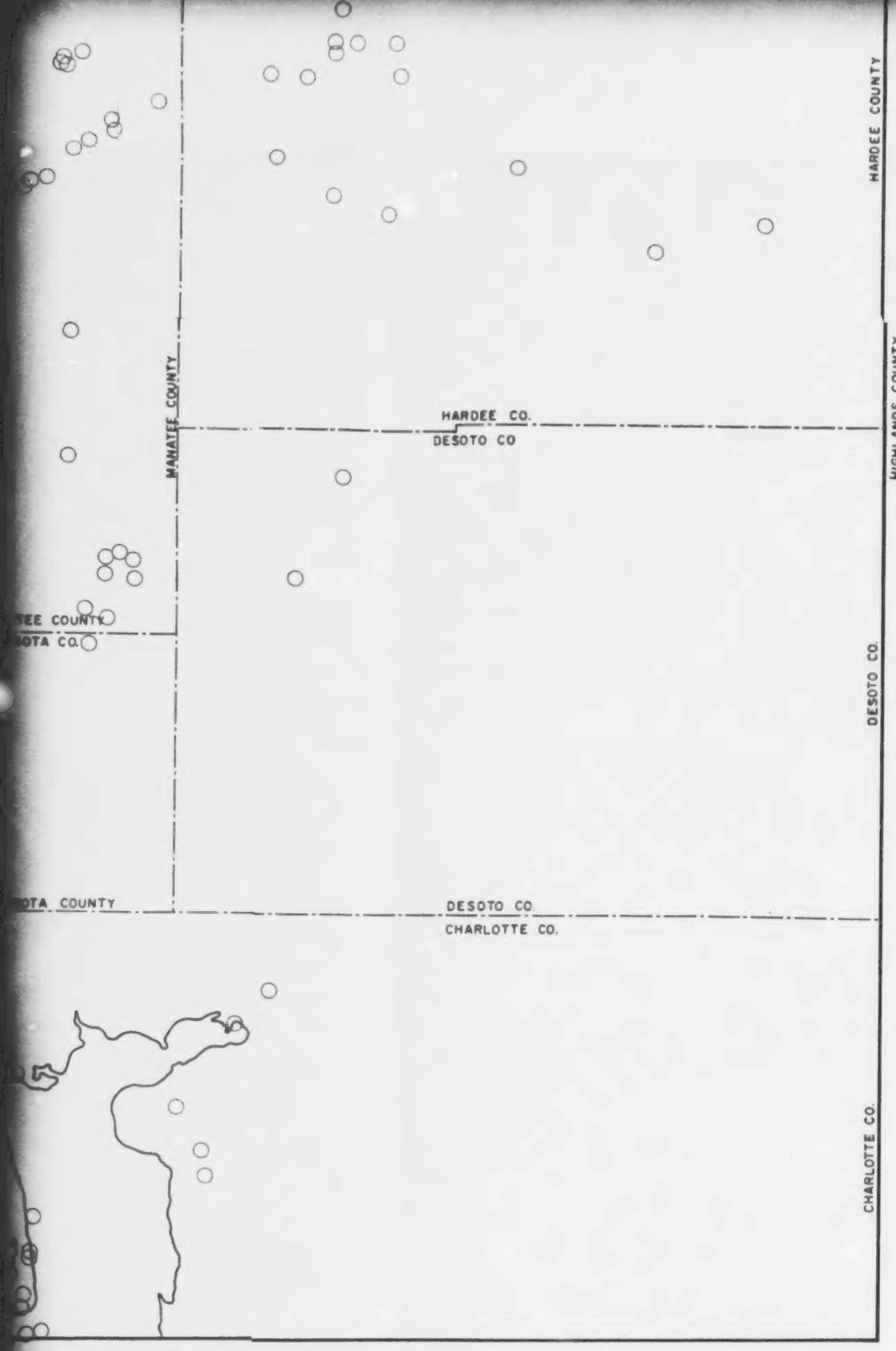
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HIGHLANDS COUNTY
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SOTA CO.
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CHARLOTTE CO.
CHARLOTTE CO.

LEGEND

○ Historical or Archeological Site

CENTRAL FLORIDA PHOSPHAT

PLATE 1 - Volume III

HISTORICAL AND ARCHEOLOGICAL SITES

Prepared by

TEXAS INSTRUMENTS
INCORPORATED

EPA Contract Number 68-01-4196

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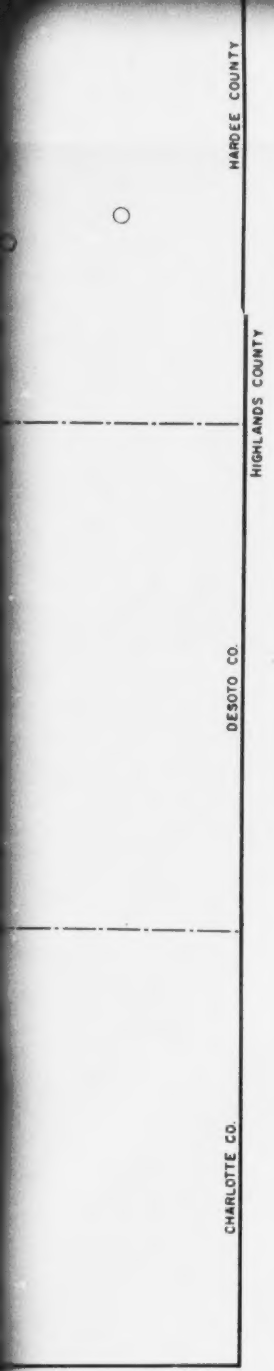
HARDEE COUNTY
HIGHLANDS COUNTY
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CHARLOTTE CO.

LEGEND

○ Historical or Archeological Site

CENTRAL FLORIDA PHOSPHATE EIS

PLATE I - Volume III

HISTORICAL AND ARCHEOLOGICAL SITES

Prepared by

TEXAS INSTRUMENTS
INCORPORATED

EPA Contract Number 68-01-4196

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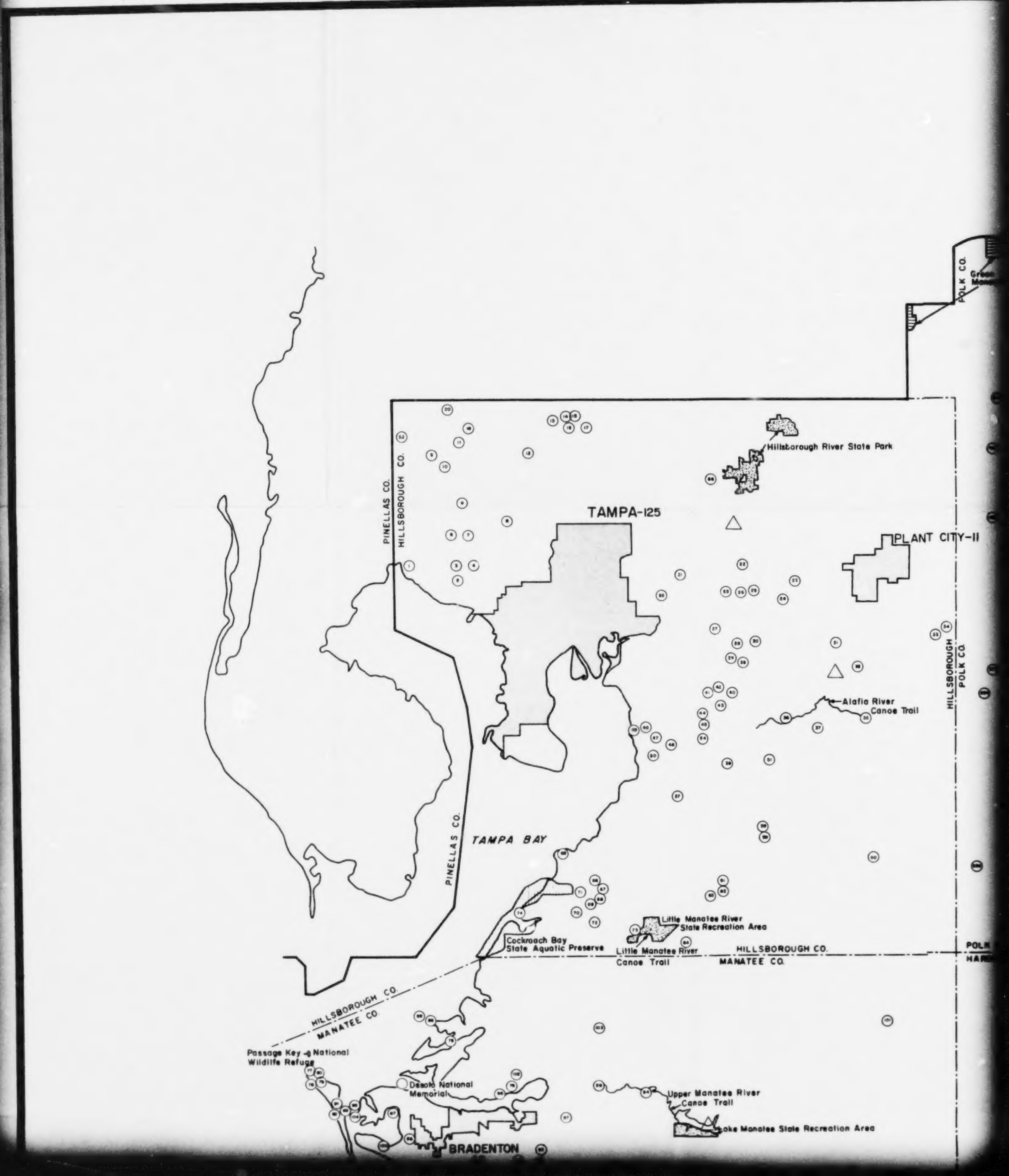
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POLK CO.
Alafia River
Canoe Trail
TAMPA BAY
PINELLAS CO.
Little Manatee River
State Recreation Area
Cockroach Bay
State Aquatic Preserve
Little Manatee River
Canoe Trail
HILLSBOROUGH CO.
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HARD
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MANATEE CO.
Passage Key National
Wildlife Refuge
Desoto National
Memorial
Upper Manatee River
Canoe Trail
Lake Manatee State Recreation Area
BRADENTON

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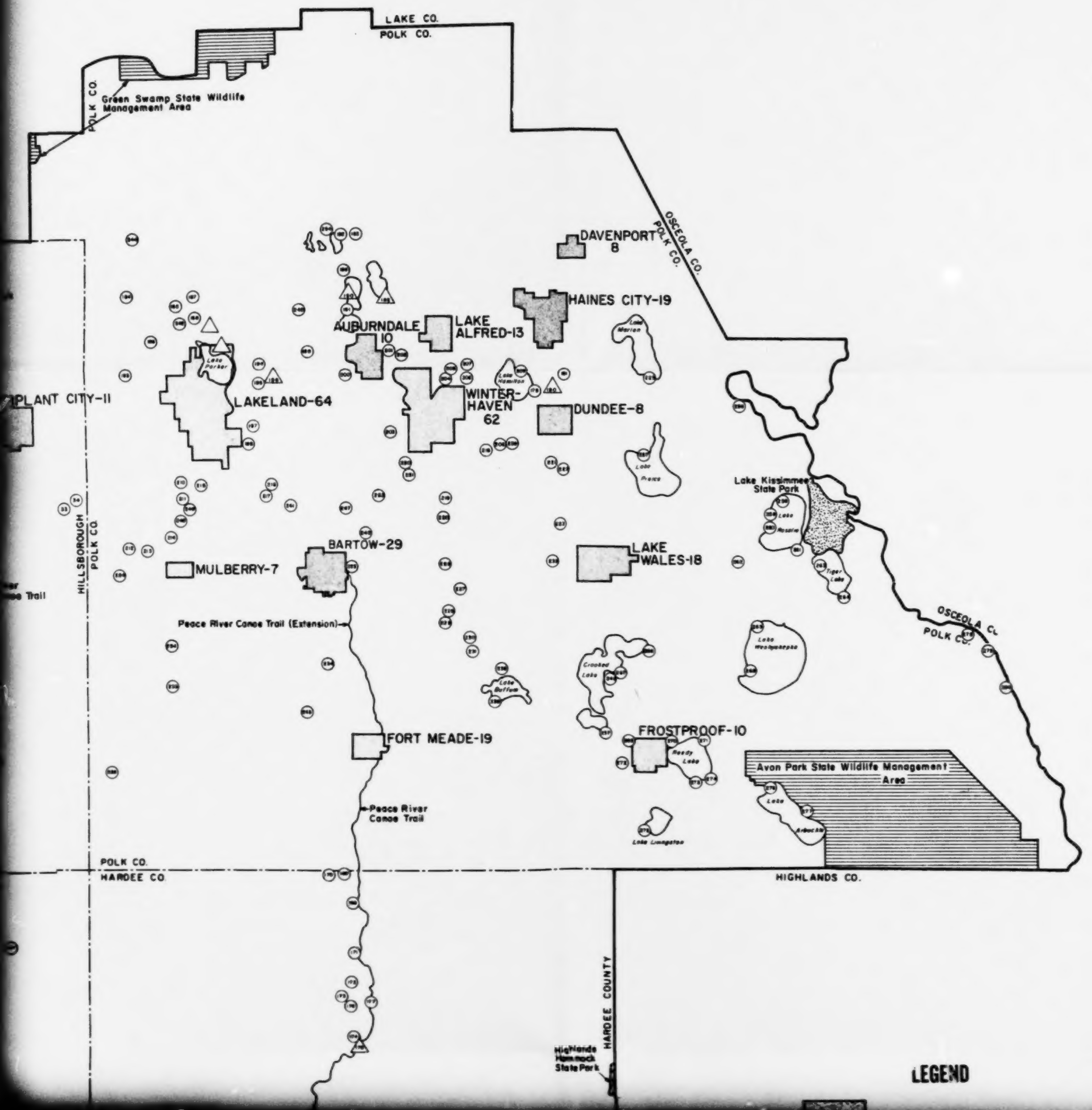
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POLK CO.
DAVENPORT 8
HAINES CITY-19
LAKE ALFRED-13
AUBURNDALE 10
Lake Marion
Lake Parker
Lake Hamilton
PLANT CITY-11
LAKELAND-64
WINTER-HAVEN 62
DUNDEE-8
Lake Pierce
Lake Kissimmee State Park
Lake Rosalie
HILLSBOROUGH
POLK CO.
BARTOW-29
MULBERRY-7
LAKE WALES-18
Tiger Lake
Trail
Peace River Canoe Trail (Extension)
OSCEOLA CO.
POLK CO.
Lake Weohyakapka
Crooked Lake
Lake Buffum
FORT MEADE-19
FROSTPROOF-10
Reedy Lake
Avon Park State Wildlife Management Area
Lake Arbuckle
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HARDEE COUNTY
Highlands Hammock State Park
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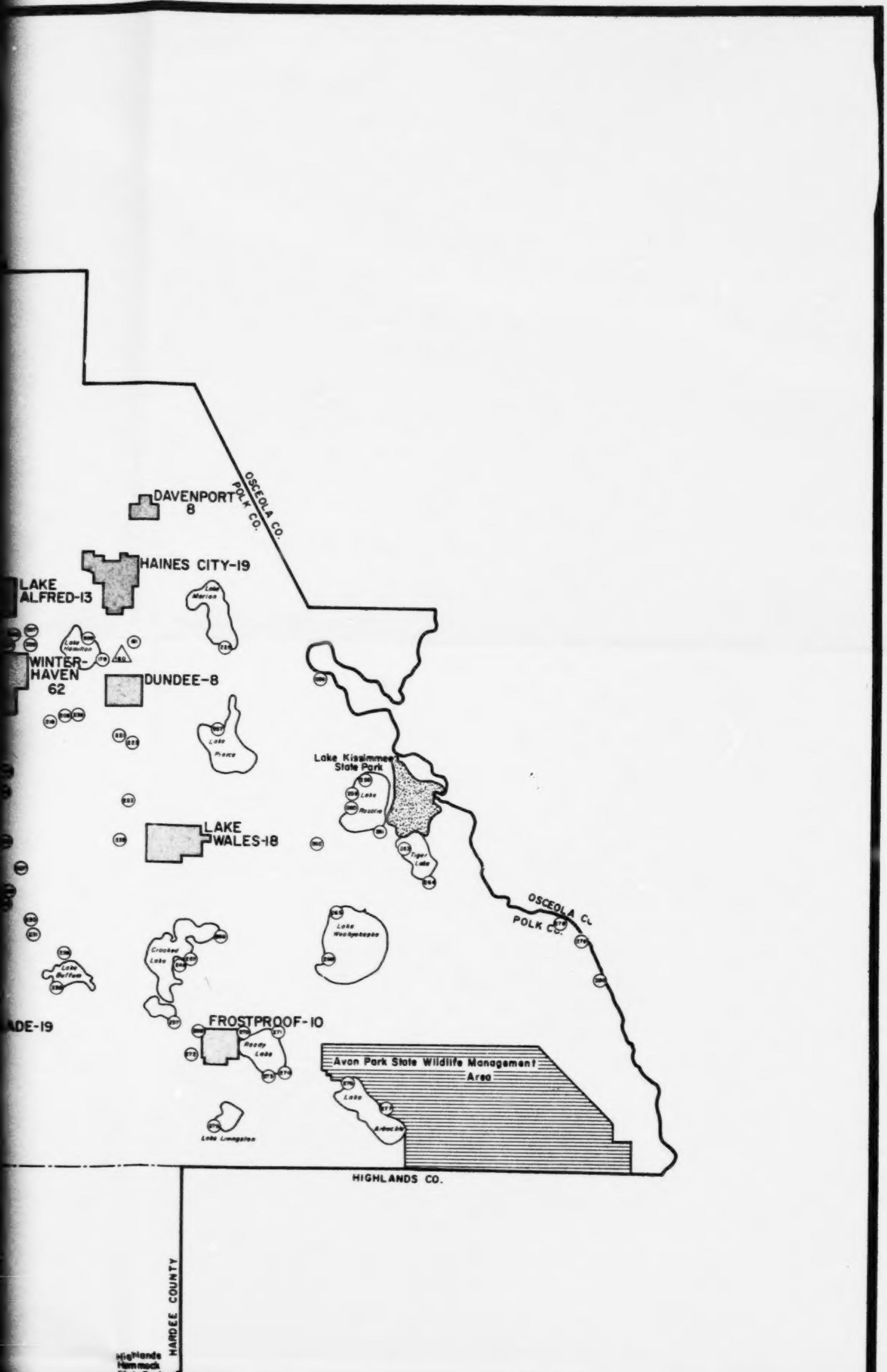
OSCEOLA CO.
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DAVENPORT
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HAINES CITY-19
LAKE
ALFRED-13
Lake Marion
Lake Hamilton
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WINTER-
HAVEN
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DUNDEE-8
Lake Pierce
Lake Kissimmee State Park
Lake Rosalie
Tiger Lake
LAKE
WALES-18
OSCEOLA CO.
POLK CO.
Lake Weohyakapka
Crooked Lake
Lake Buffum
ADE-19
FROSTPROOF-10
Reedy Lake
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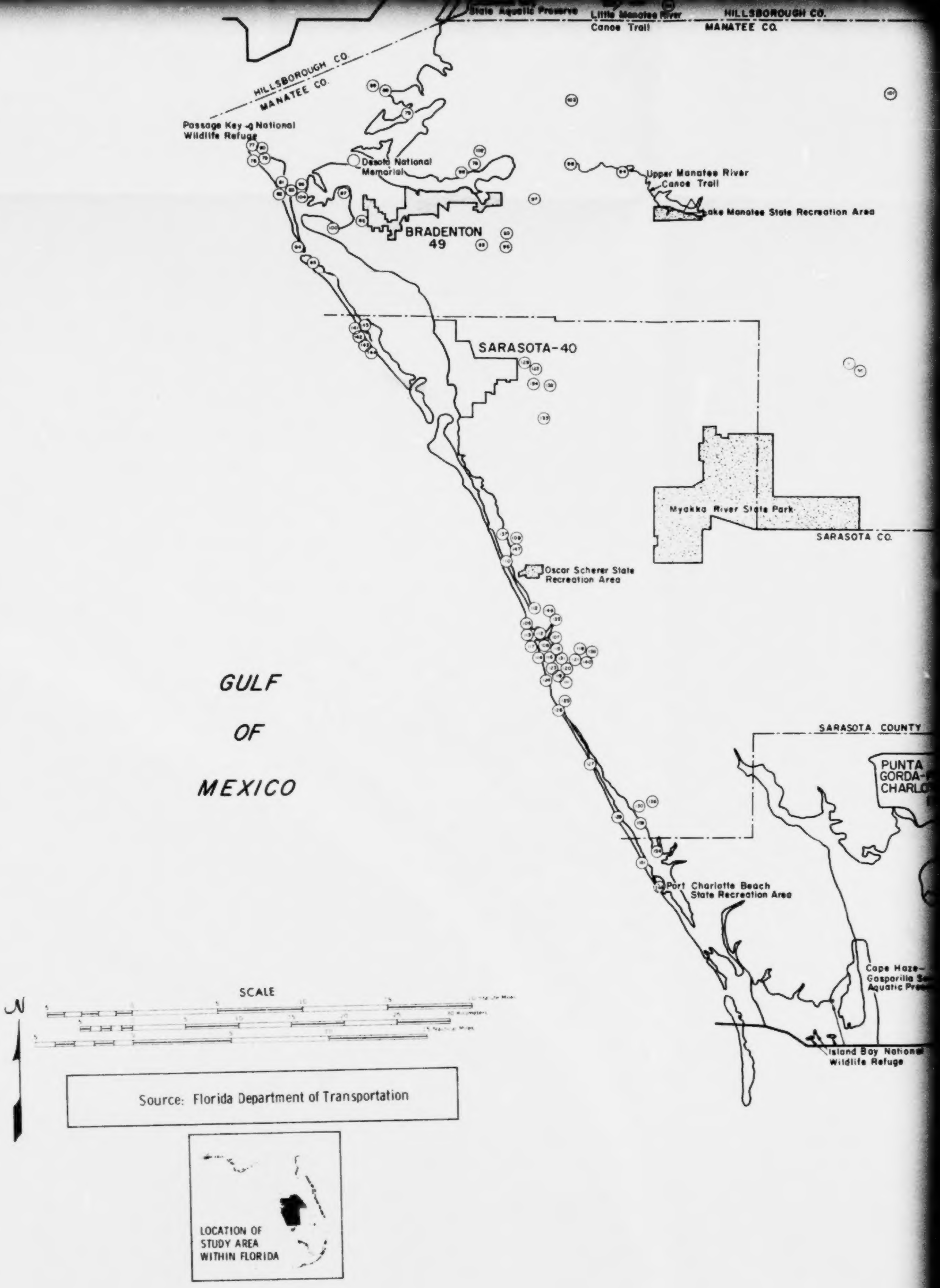
Avon Park State Wildlife Management Area
Lake Arbuckle
277
Lake Livingston
HIGHLANDS CO.
HARDEE COUNTY
Highlands Hammock State Park

LEGEND


State Aquatic Preserve
Little Manatee River
Canoe Trail
HILLSBOROUGH CO.
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MANATEE CO.
Passage Key -g National
Wildlife Refuge
Desoto National
Memorial
Upper Manatee River
Canoe Trail
Lake Manatee State Recreation Area
BRADENTON
49
SARASOTA-40
Myakka River State Park
SARASOTA CO.
Oscar Scherer State
Recreation Area
GULF
OF
MEXICO
SARASOTA COUNTY
PUNTA
GORDA-
CHARLO
Port Charlotte Beach
State Recreation Area
Cape Haze-
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Island Bay National
Wildlife Refuge
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LOCATION OF
STUDY AREA
WITHIN FLORIDA

Source: Florida Department of Transportation

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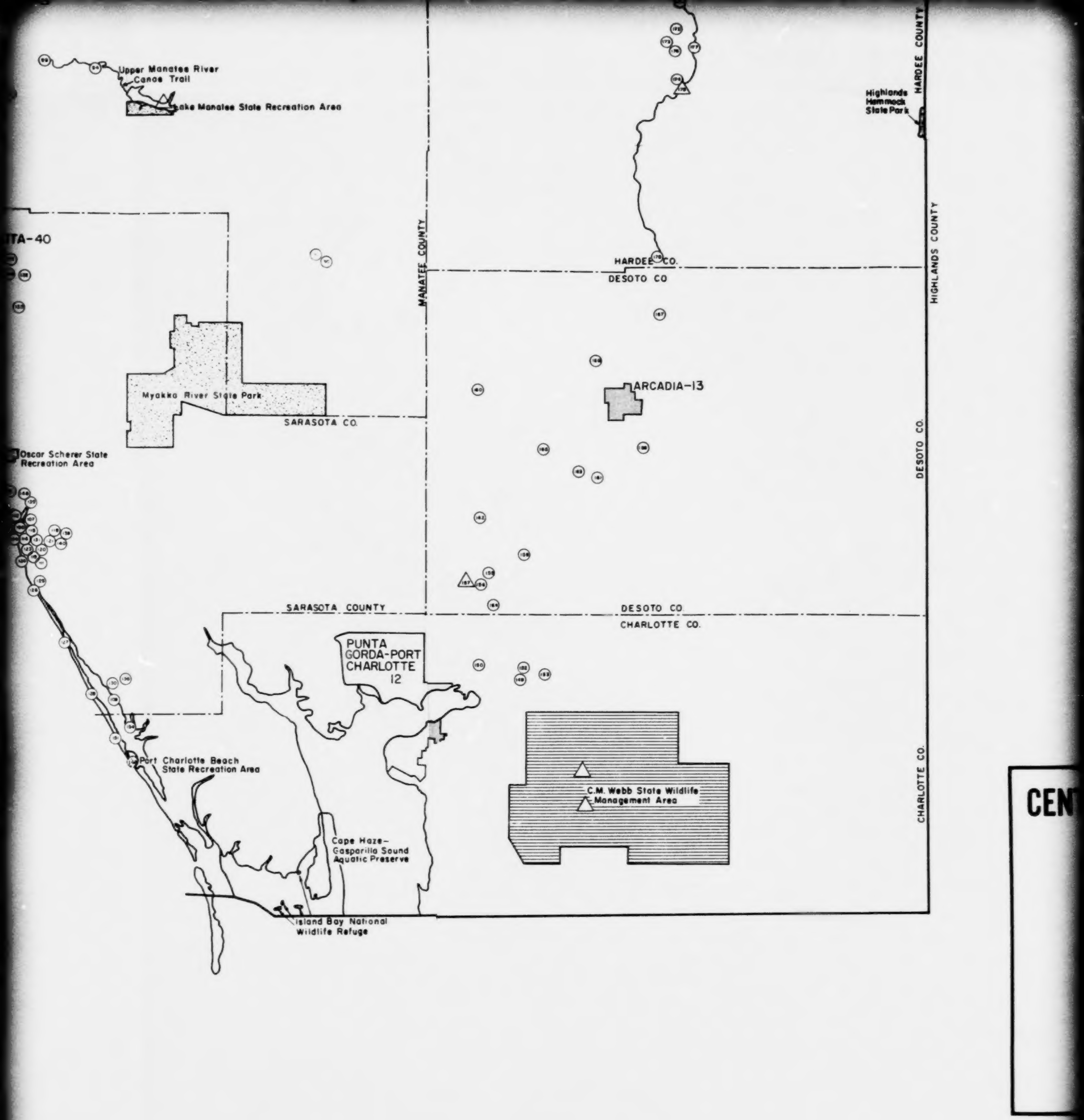
Upper Manatee River
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Lake Manatee State Recreation Area
Highlands Hammock State Park
HARDEE COUNTY
HIGHLANDS COUNTY
MANATEE COUNTY
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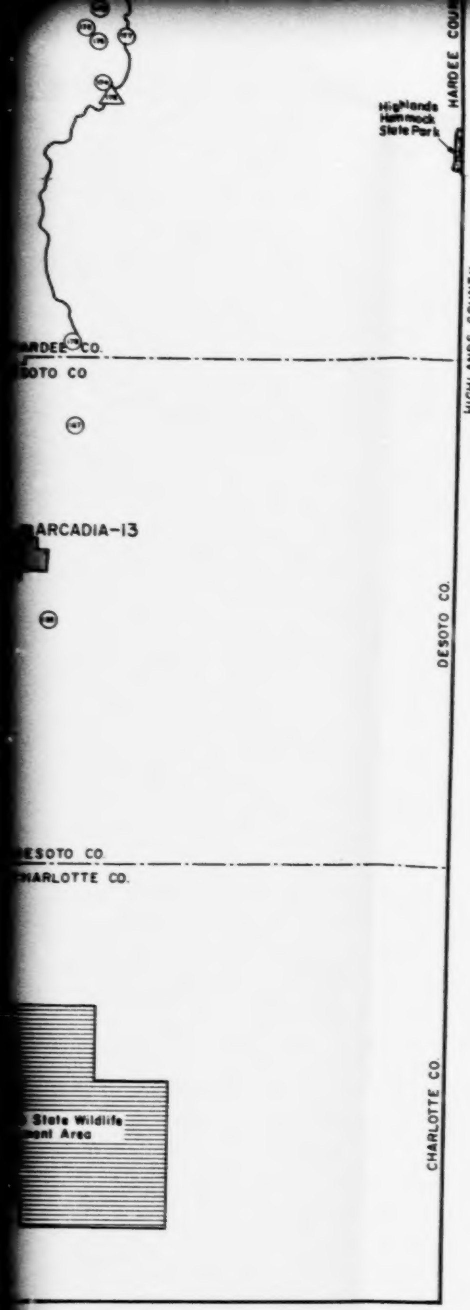
Myakka River State Park
SARASOTA CO.
Oscar Scherer State Recreation Area
DESOTO CO.
SARASOTA COUNTY
DESOTO CO.
CHARLOTTE CO.
PUNTA GORDA-PORT CHARLOTTE
12
Port Charlotte Beach State Recreation Area
C.M. Webb State Wildlife Management Area
CHARLOTTE CO.
Cape Haze-Gasparilla Sound Aquatic Preserve
Island Bay National Wildlife Refuge
CEN

E


Highlands Hammock State Park
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HARDEE CO.
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DESOTO CO.
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CHARLOTTE CO.
CHARLOTTE CO.
State Wildlife
ment Area

LEGEND

▨	State Park or Recreational Area
☐	State Aquatic Preserve
▤	State Wildlife Management Area
△	State Fish Management Area
⊙	Local Recreational Area (Numbers Keyed to Appendix)

CENTRAL FLORIDA PHOSPHATE EIS

PLATE 2 - Volume III

RECREATIONAL AREAS

Prepared by

TEXAS INSTRUMENTS
INCORPORATED

EPA Contract Number 68-01-4196

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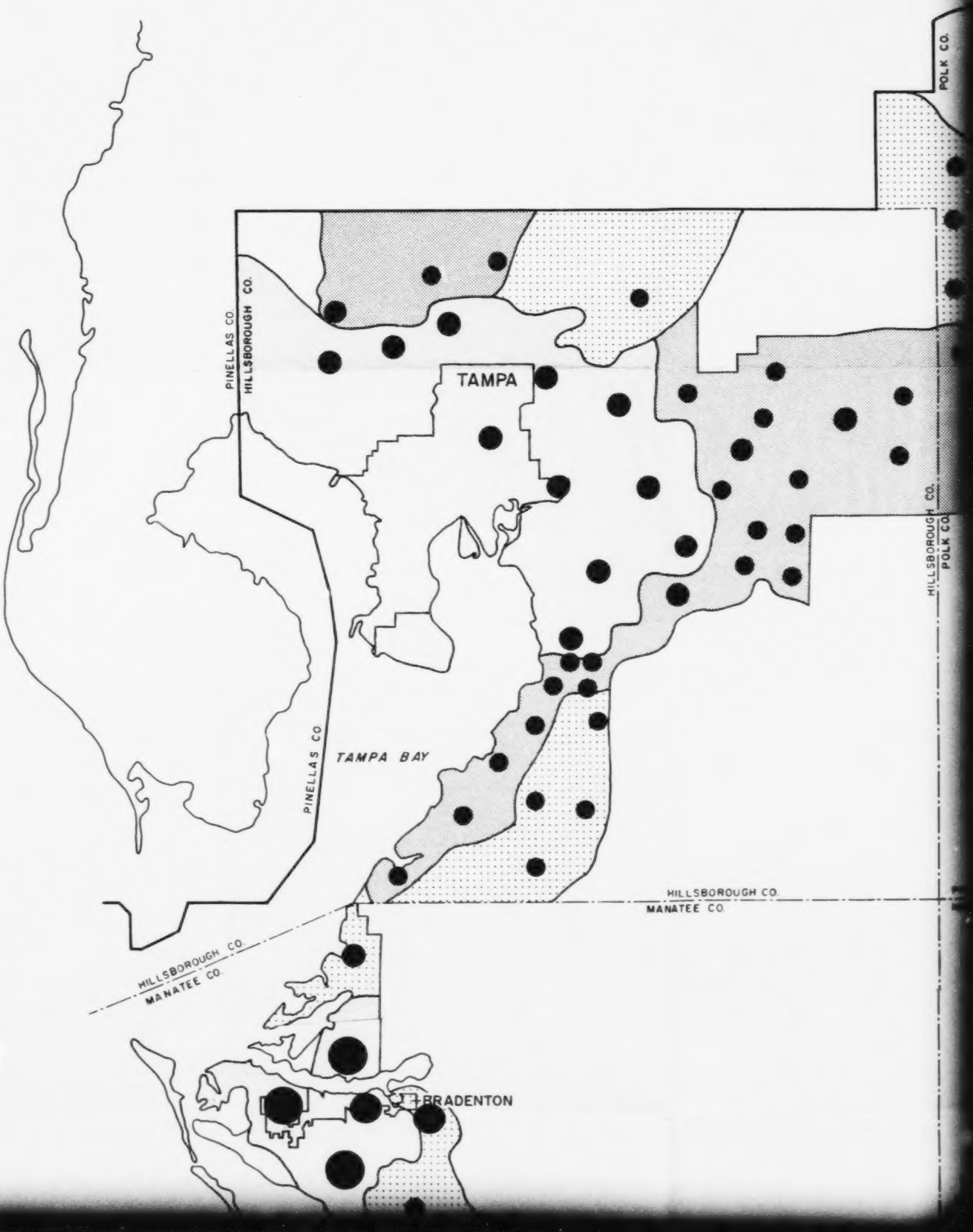
POLK CO.
PINELLAS CO.
HILLSBOROUGH CO.
TAMPA
PINELLAS CO.
TAMPA BAY
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MANATEE CO.
HILLSBOROUGH CO.
MANATEE CO.
BRADENTON

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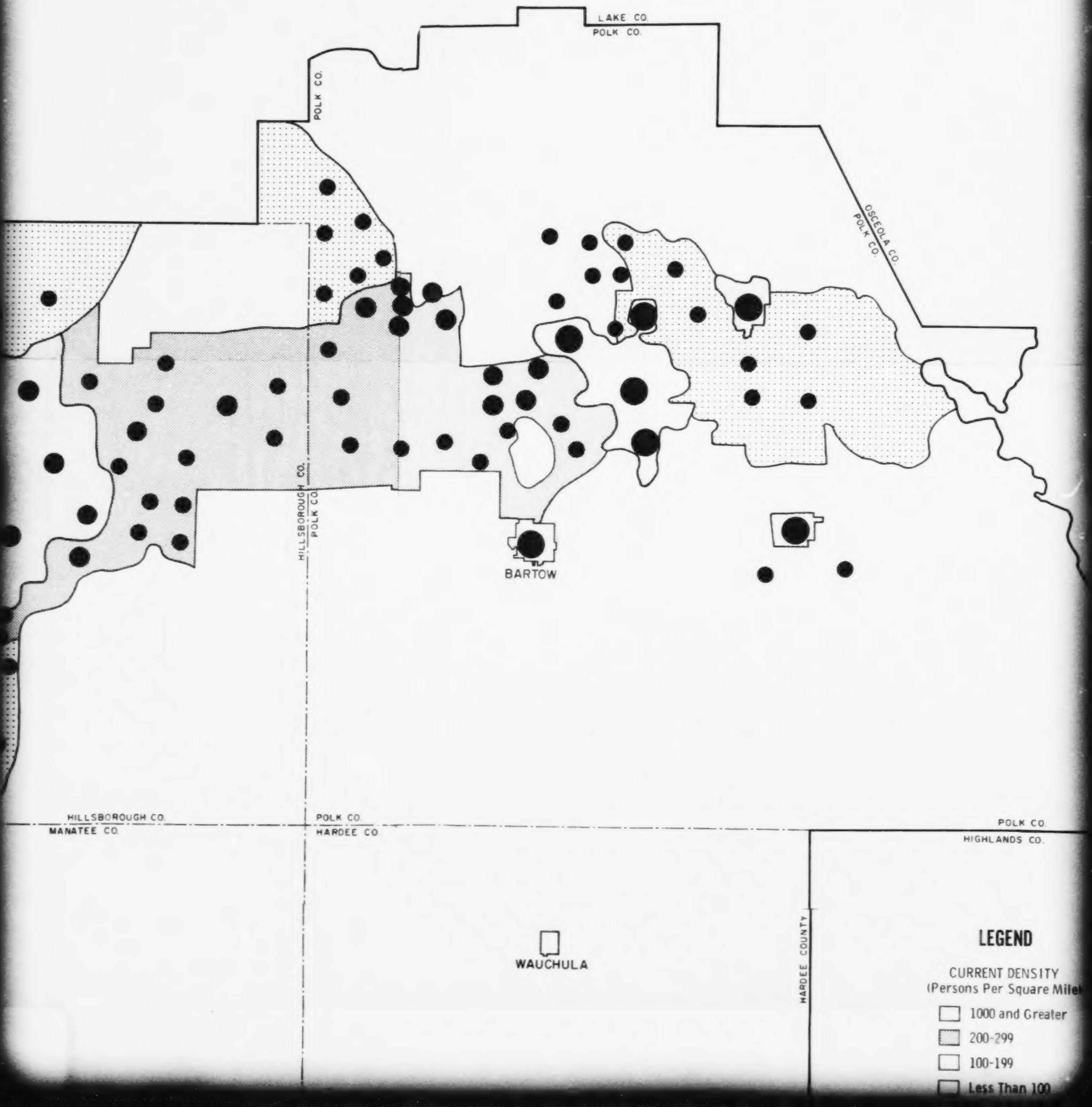
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OSCEOLA CO.
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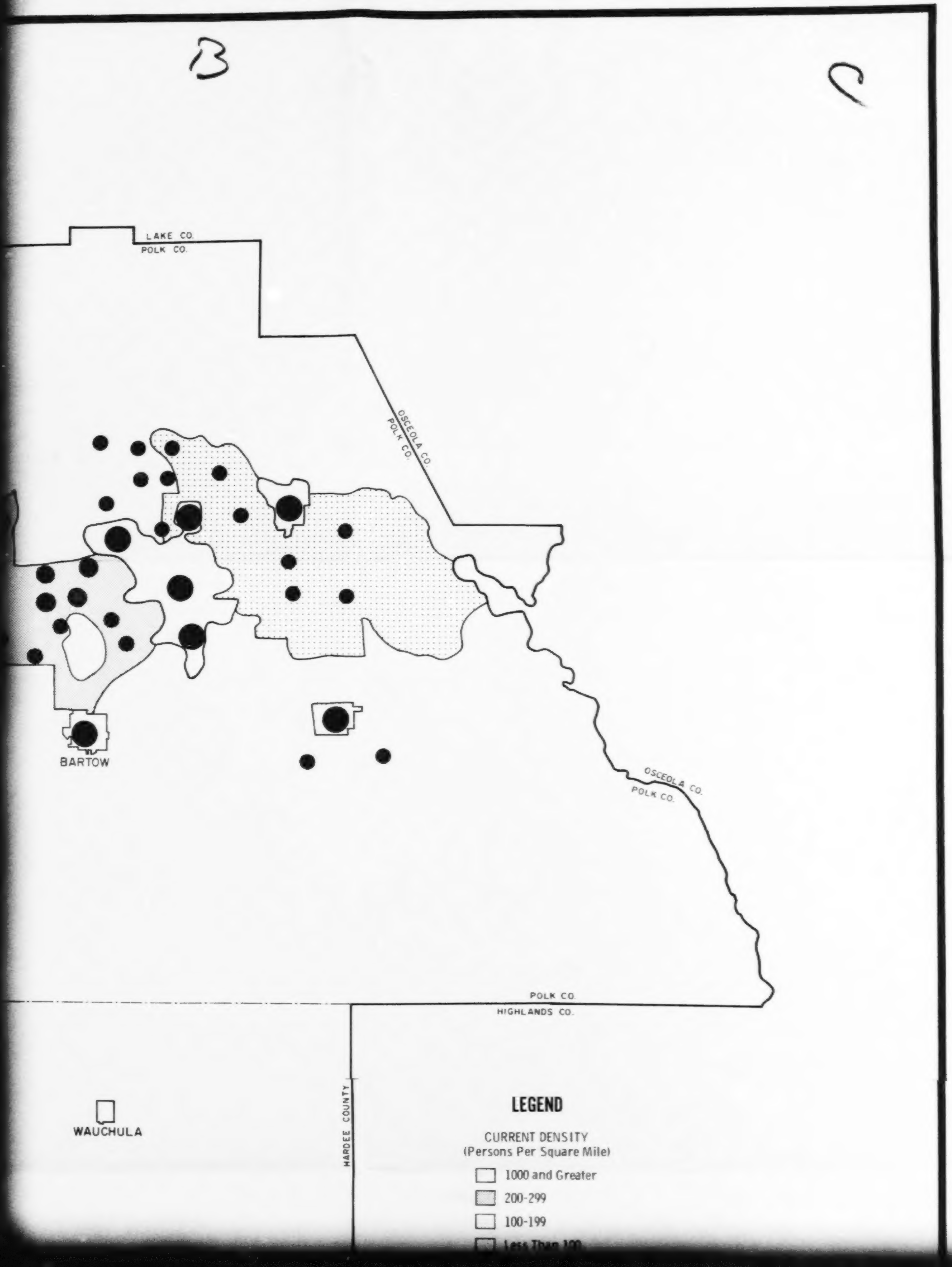
BARTOW
HILLSBOROUGH CO.
MANATEE CO.
POLK CO.
HARDEE CO.
POLK CO.
HIGHLANDS CO.
HARDEE COUNTY
WAUCHULA
LEGEND
CURRENT DENSITY
(Persons Per Square Mile
☐ 1000 and Greater
▨ 200-299
☐ 100-199
☐ Less Than 100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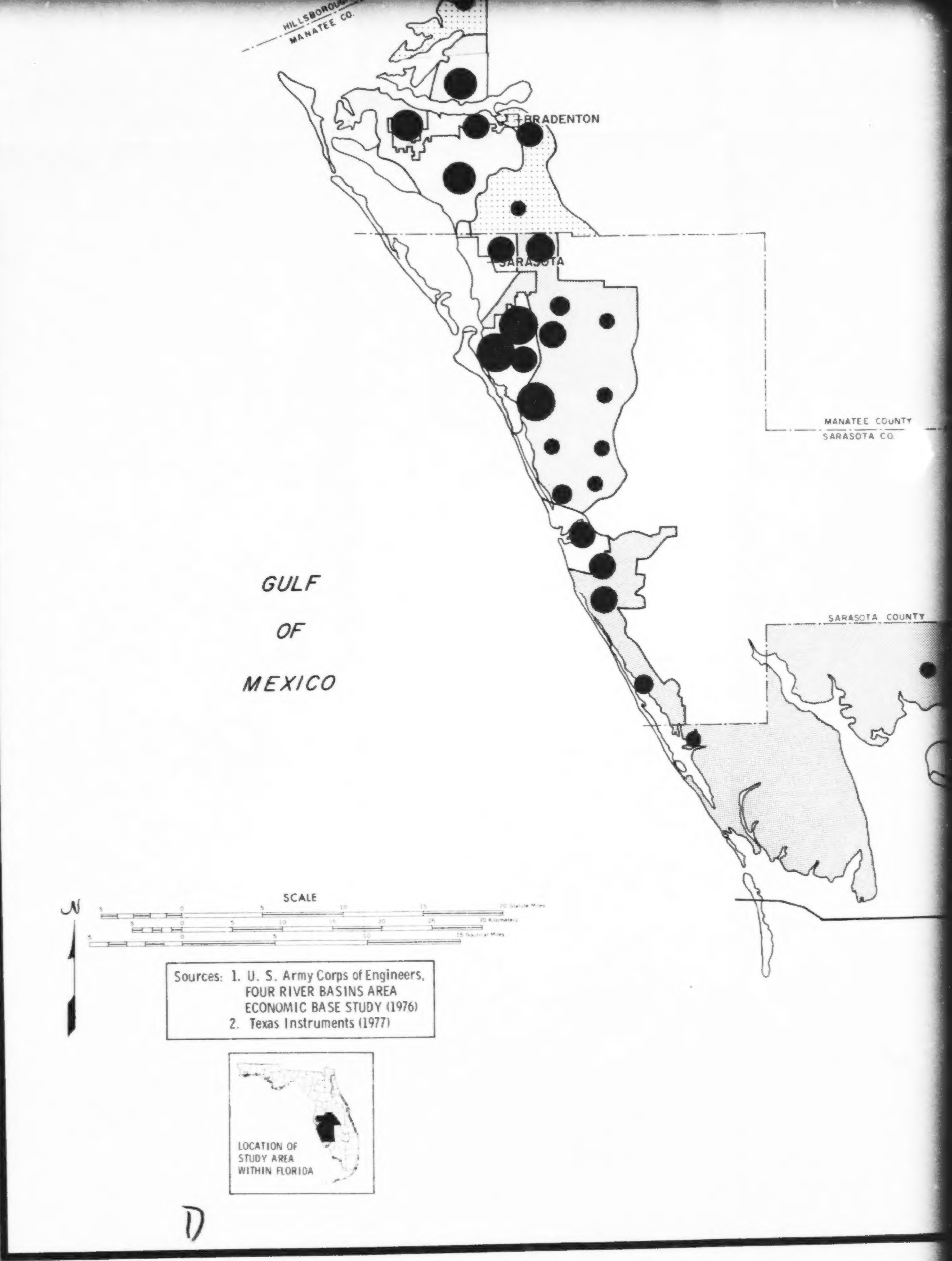
POLK CO.
OSCEOLA CO.
POLK CO.
BARTOW
OSCEOLA CO.
POLK CO.
POLK CO.
HIGHLANDS CO.
HARDEE COUNTY
WAUCHULA
LEGEND
CURRENT DENSITY
(Persons Per Square Mile)
1000 and Greater
200-299
100-199
Less Than 100


HILLSBOROUGH
MANATEE CO.
BRADENTON
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SARASOTA CO.
SARASOTA COUNTY
GULF
OF
MEXICO
SCALE
5 0 5 10 15 20 Statute Miles
5 0 5 10 15 20 25 30 Kilometers
5 0 5 10 15 Nautical Miles
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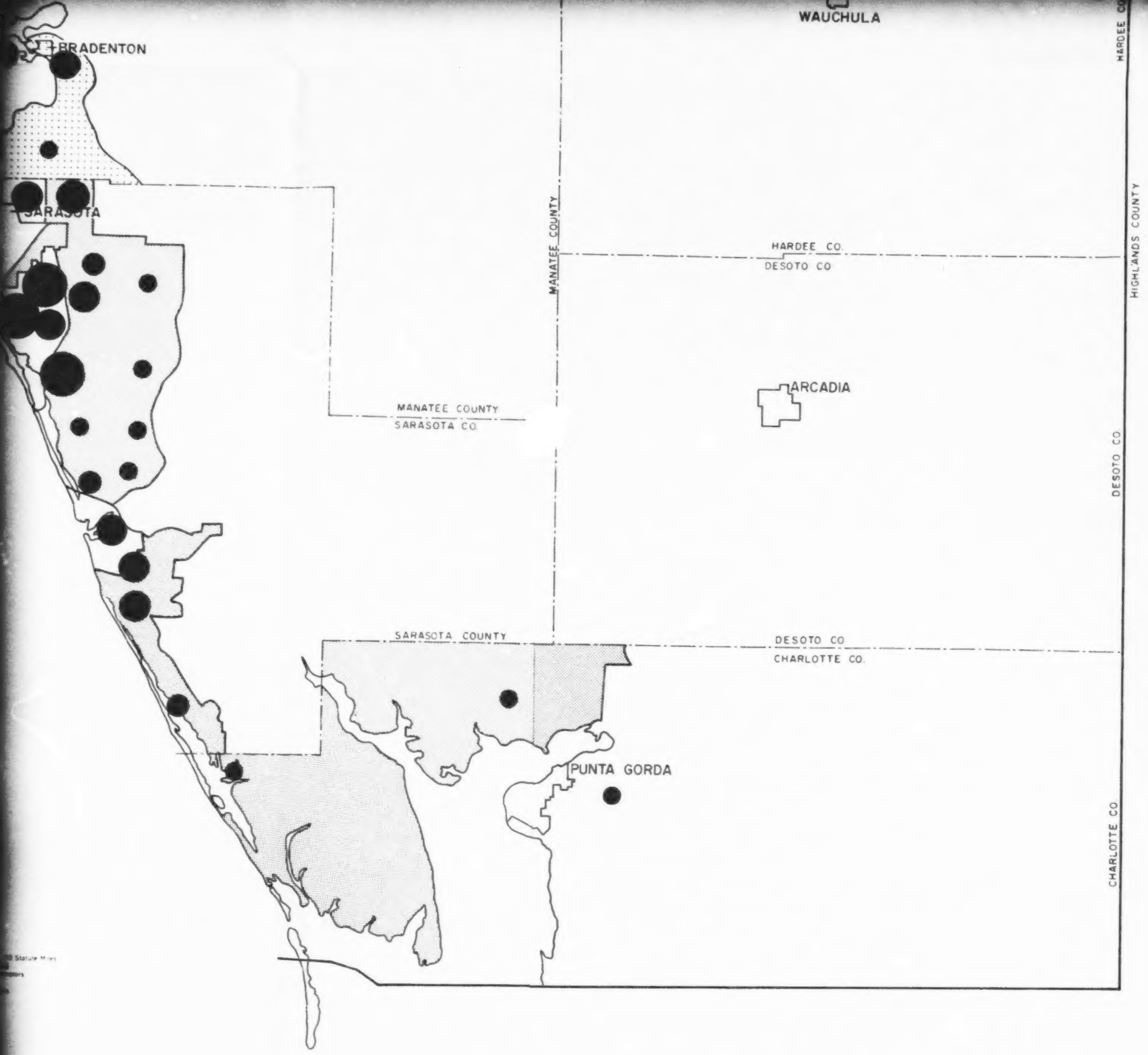
LOCATION OF
STUDY AREA
WITHIN FLORIDA

Sources: 1. U. S. Army Corps of Engineers,
FOUR RIVER BASINS AREA
ECONOMIC BASE STUDY (1976)
2. Texas Instruments (1977)

D


WAUCHULA
HARDEE CO
BRADENTON
SARASOTA
MANATEE COUNTY
HARDEE CO.
DESOTO CO
HIGHLANDS COUNTY
ARCADIA
MANATEE COUNTY
SARASOTA CO.
DESOTO CO
SARASOTA COUNTY
DESOTO CO
CHARLOTTE CO.
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Statute Miles

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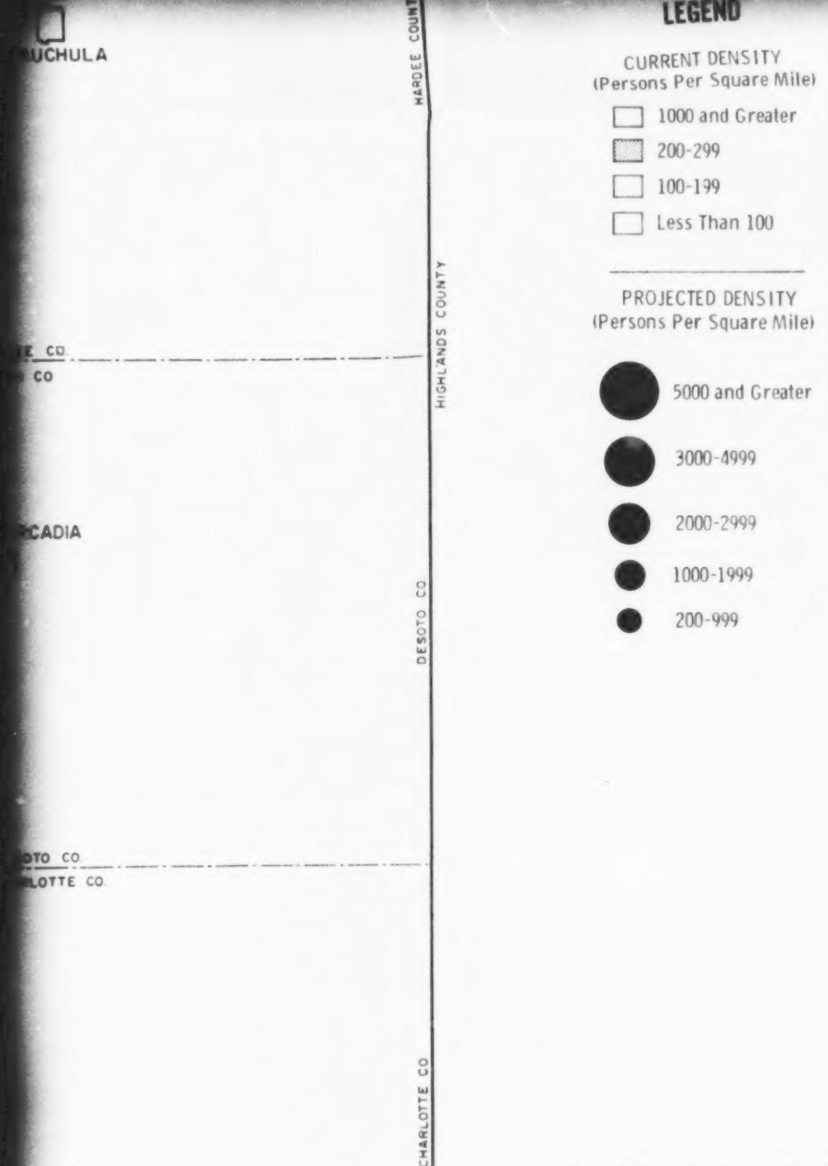
UCHULA
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CURRENT DENSITY
(Persons Per Square Mile)
☐ 1000 and Greater
▨ 200-299
☐ 100-199
☐ Less Than 100
PROJECTED DENSITY
(Persons Per Square Mile)
● 5000 and Greater
● 3000-4999
● 2000-2999
● 1000-1999
● 200-999

CENTRAL FLORIDA PHOSPHATE EIS

PLATE 3 Volume III

1975 DENSITY OF POPULATION PROJECTED TO 2000

(BY CENSUS TRACT)

Prepared by

TEXAS INSTRUMENTS
INCORPORATED

EPA Contract Number 68-01-4196

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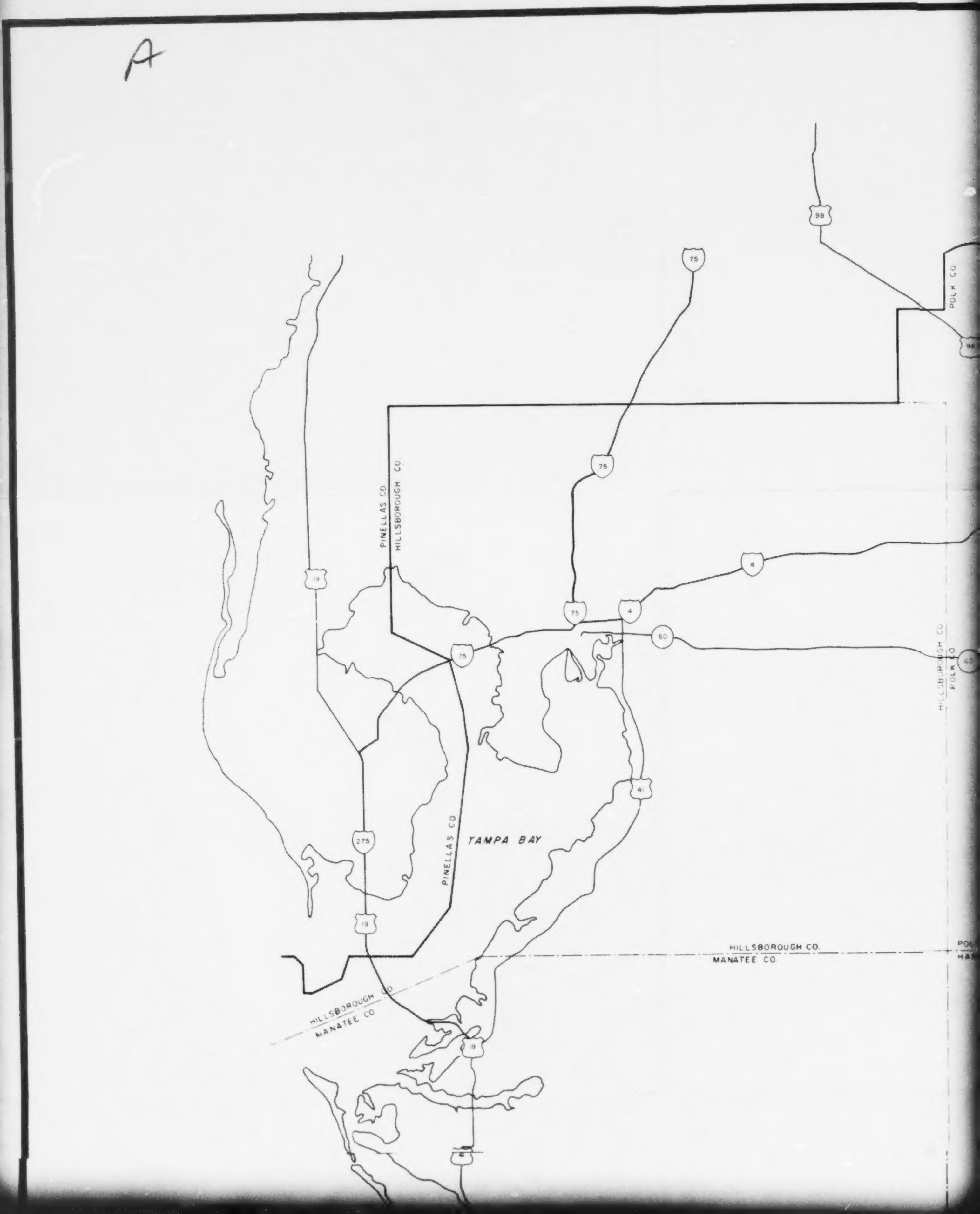
98
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POLK CO.
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PINELLAS CO.
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HILLSBOROUGH CO.
POLK CO.
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PINELLAS CO.
TAMPA BAY
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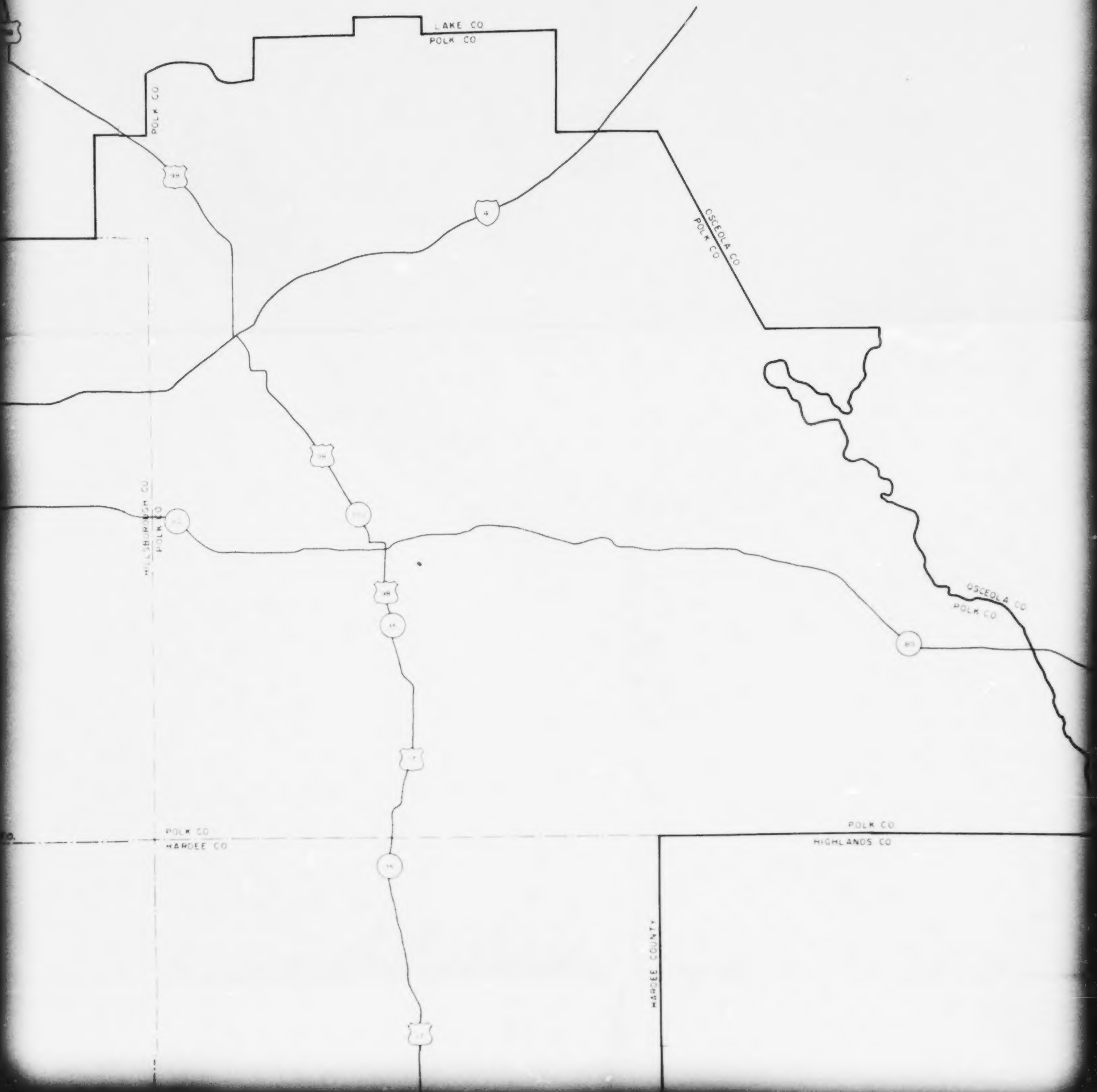
HILLSBOROUGH CO.
MANATEE CO.
HILLSBOROUGH CO.
MANATEE CO.
19
41

13



LAKE CO
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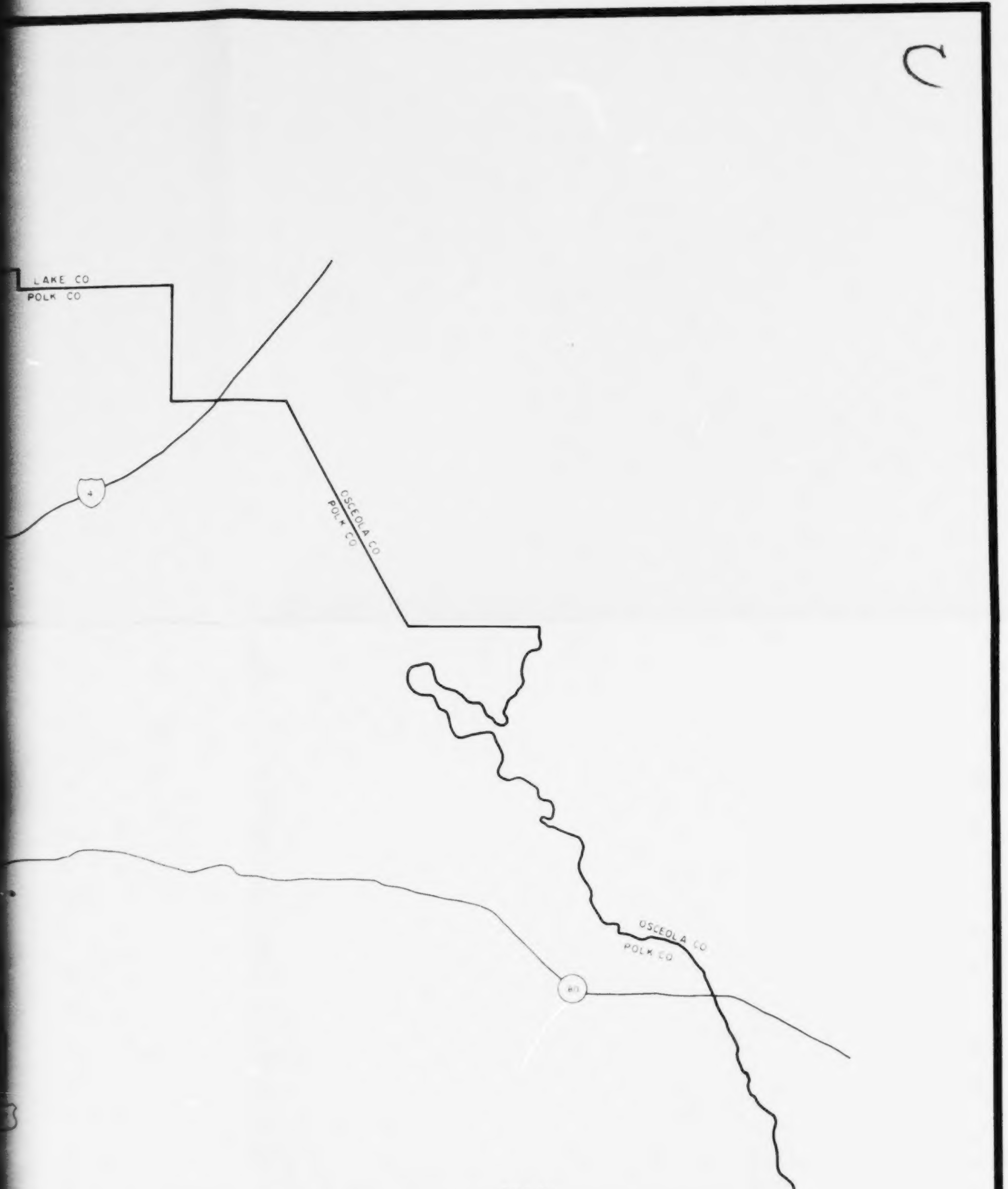
HARDEE CO
POLK CO
HIGHLANDS CO
HARDEE COUNTY
17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POLK CO
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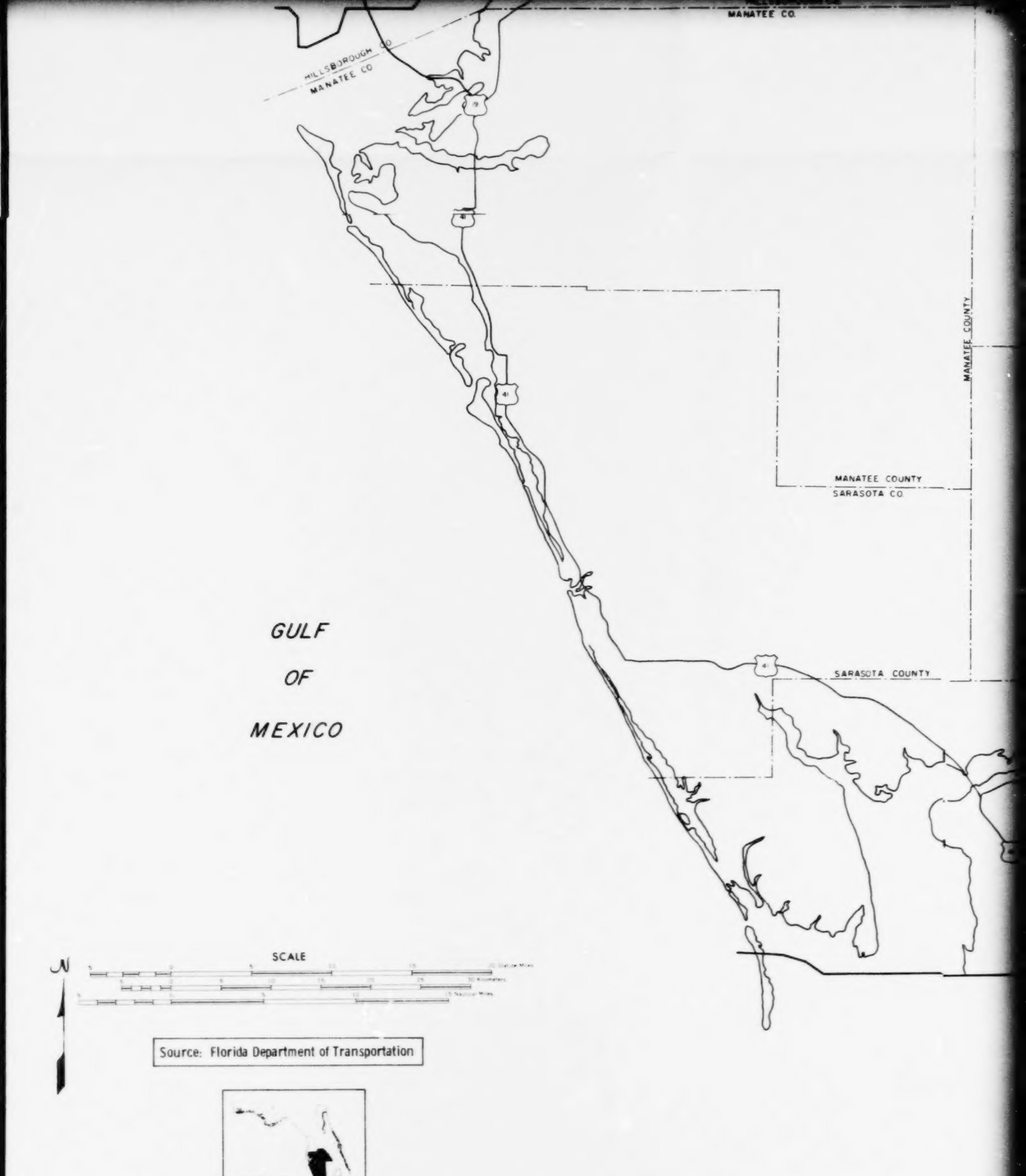
HARDEE COUNTY


MANATEE CO.
HILLSBOROUGH CO.
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LOCATION OF
STUDY AREA
WITHIN FLORIDA

Source: Florida Department of Transportation

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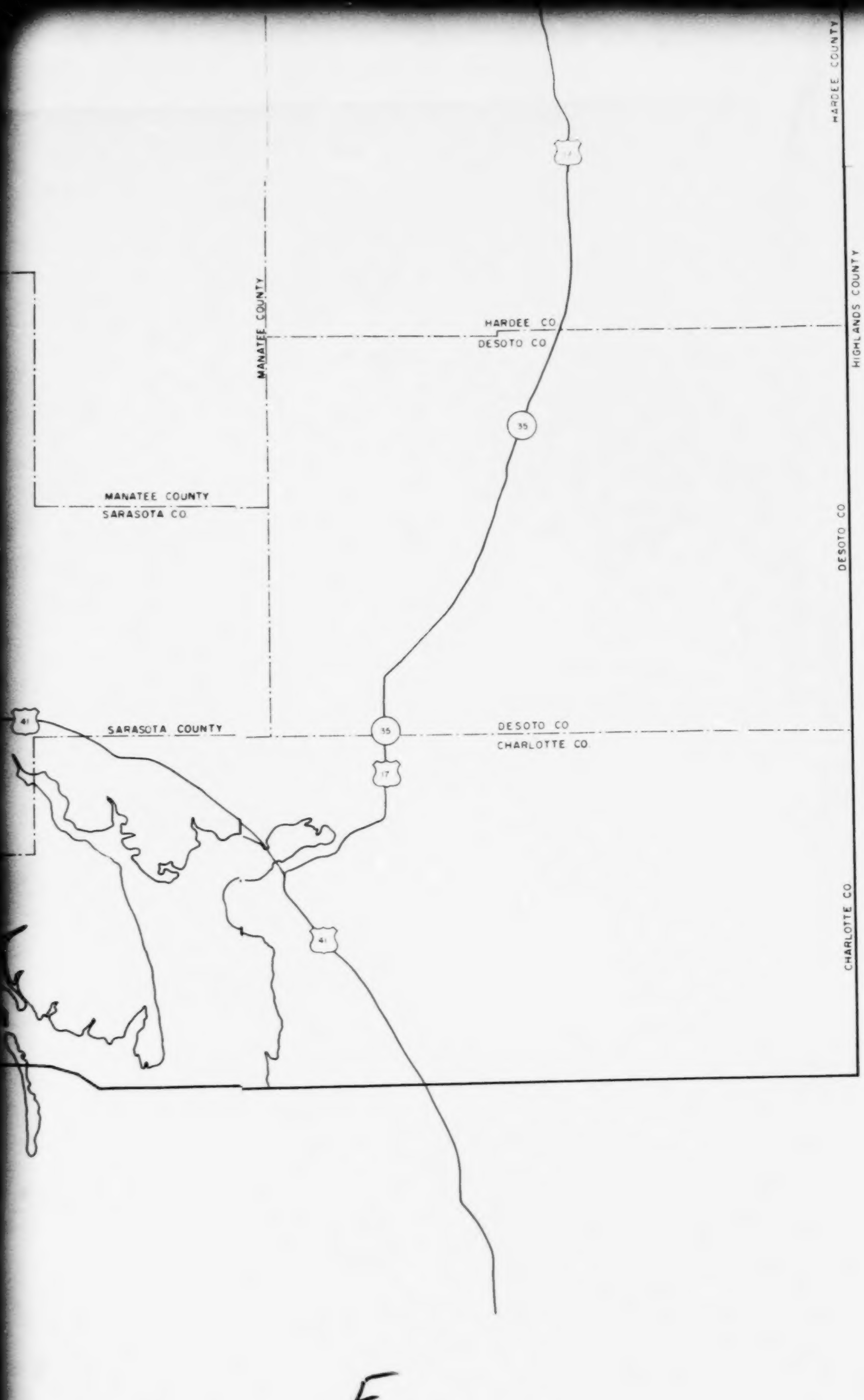
HARDEE COUNTY
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HIGHLANDS COUNTY
MANATEE COUNTY
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MANATEE COUNTY
SARASOTA CO.
DESOTO CO
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SARASOTA COUNTY
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DESOTO CO
CHARLOTTE CO
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CHARLOTTE CO

CENTRAL FLORIDA

PLATE
Volume

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TEXAS INS

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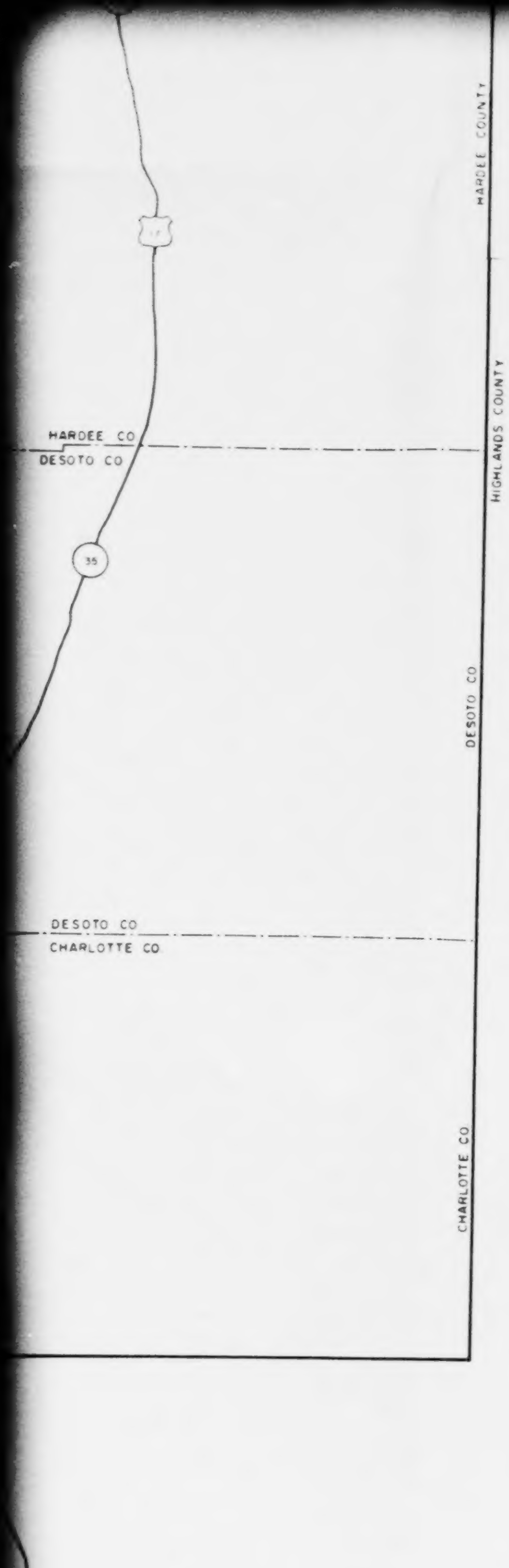
HARDEE COUNTY
HIGHLANDS COUNTY
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DESOTO CO
CHARLOTTE CO
CHARLOTTE CO

CENTRAL FLORIDA PHOSPHATE EIS

PLATE 4
Volume III

MAJOR HIGHWAYS

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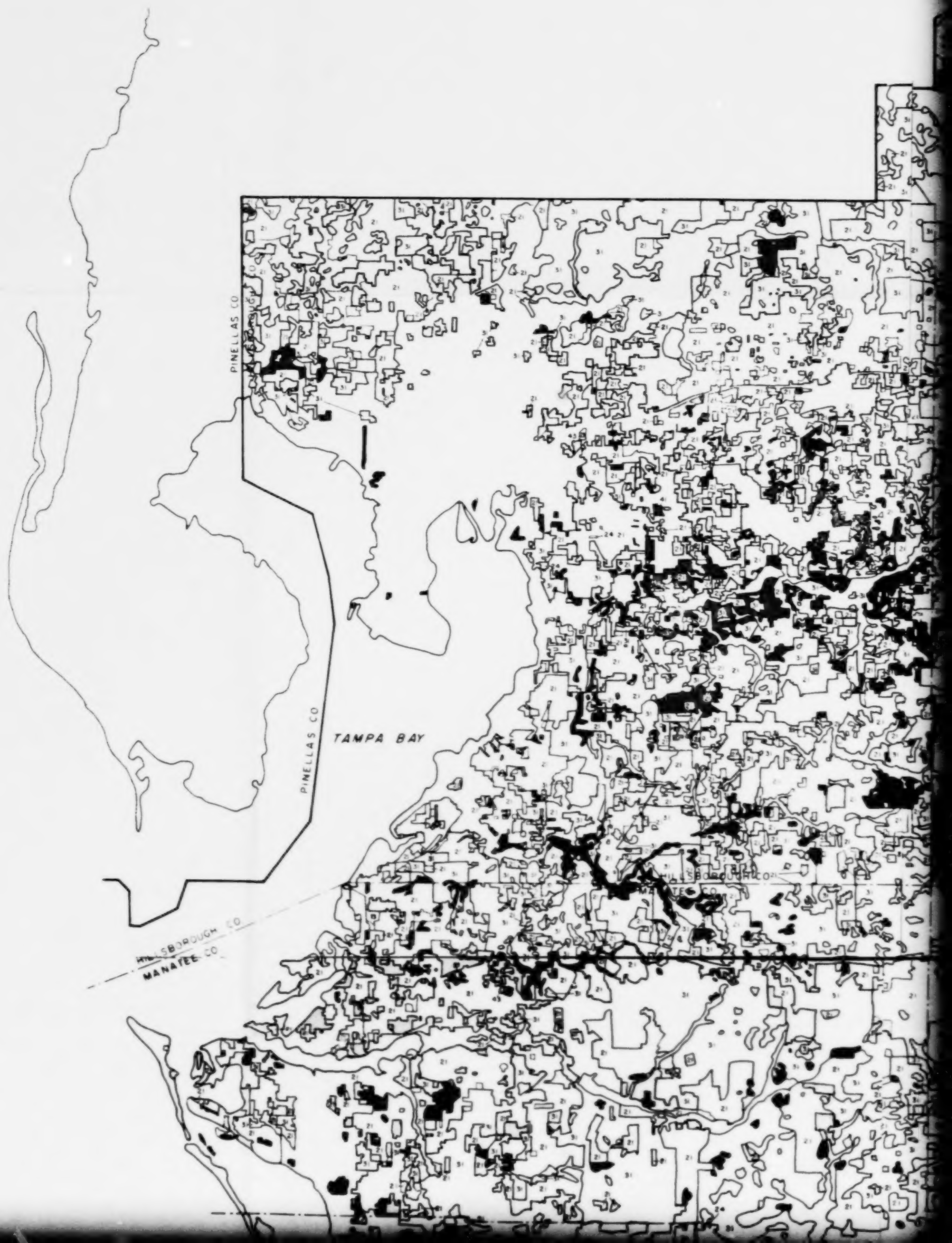
PINELLAS CO
PINELLAS CO
TAMPA BAY
HILLSBOROUGH CO
MANATEE CO
HILLSBOROUGH CO
MANATEE CO
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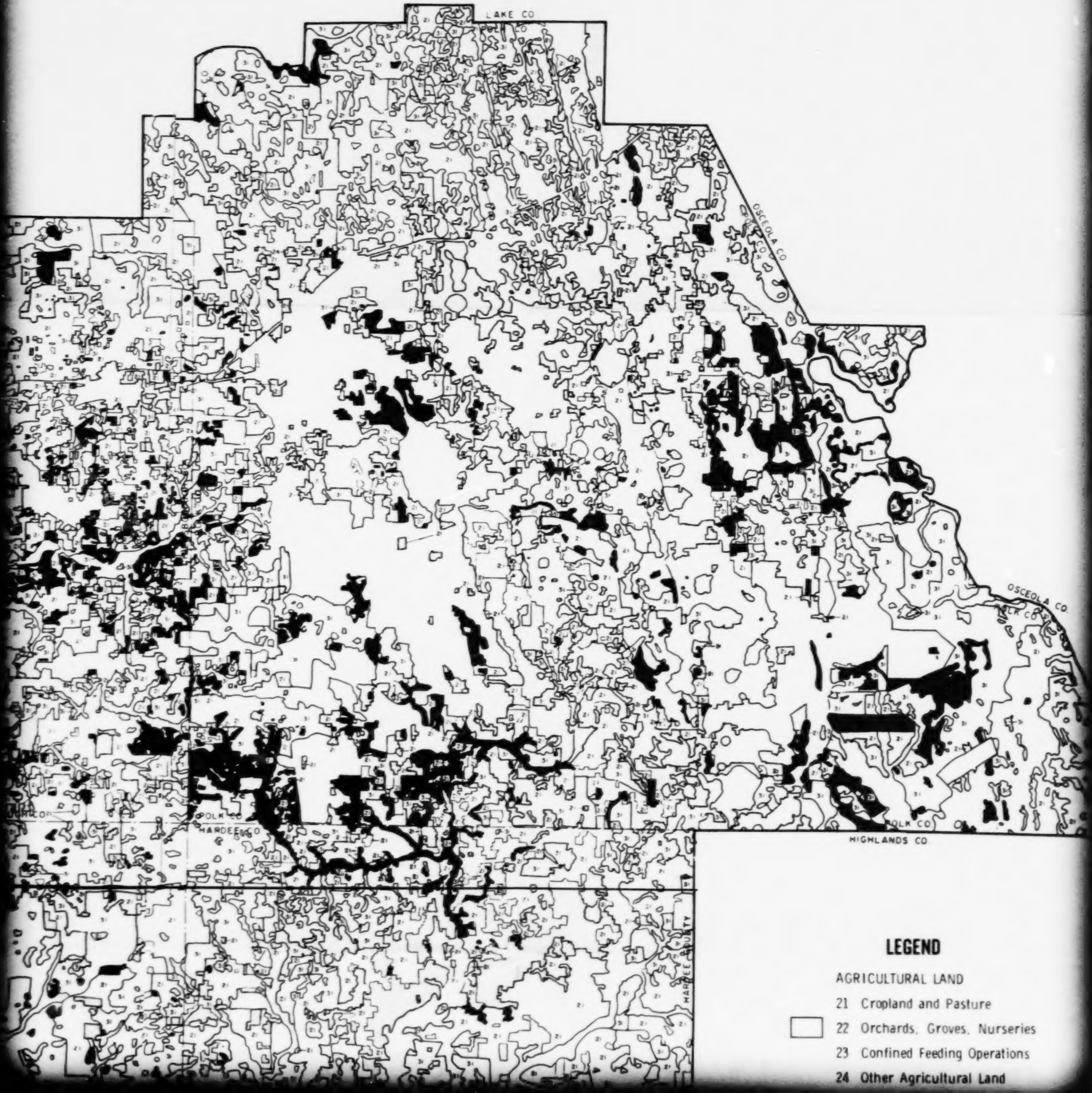
LAKE CO
POLK CO
OSCEOLA CO
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OSCEOLA CO
POLK CO
POLK CO
HIGHLANDS CO
POLK CO
HARDEE CO
HARDEE COUNTY

LEGEND

AGRICULTURAL LAND

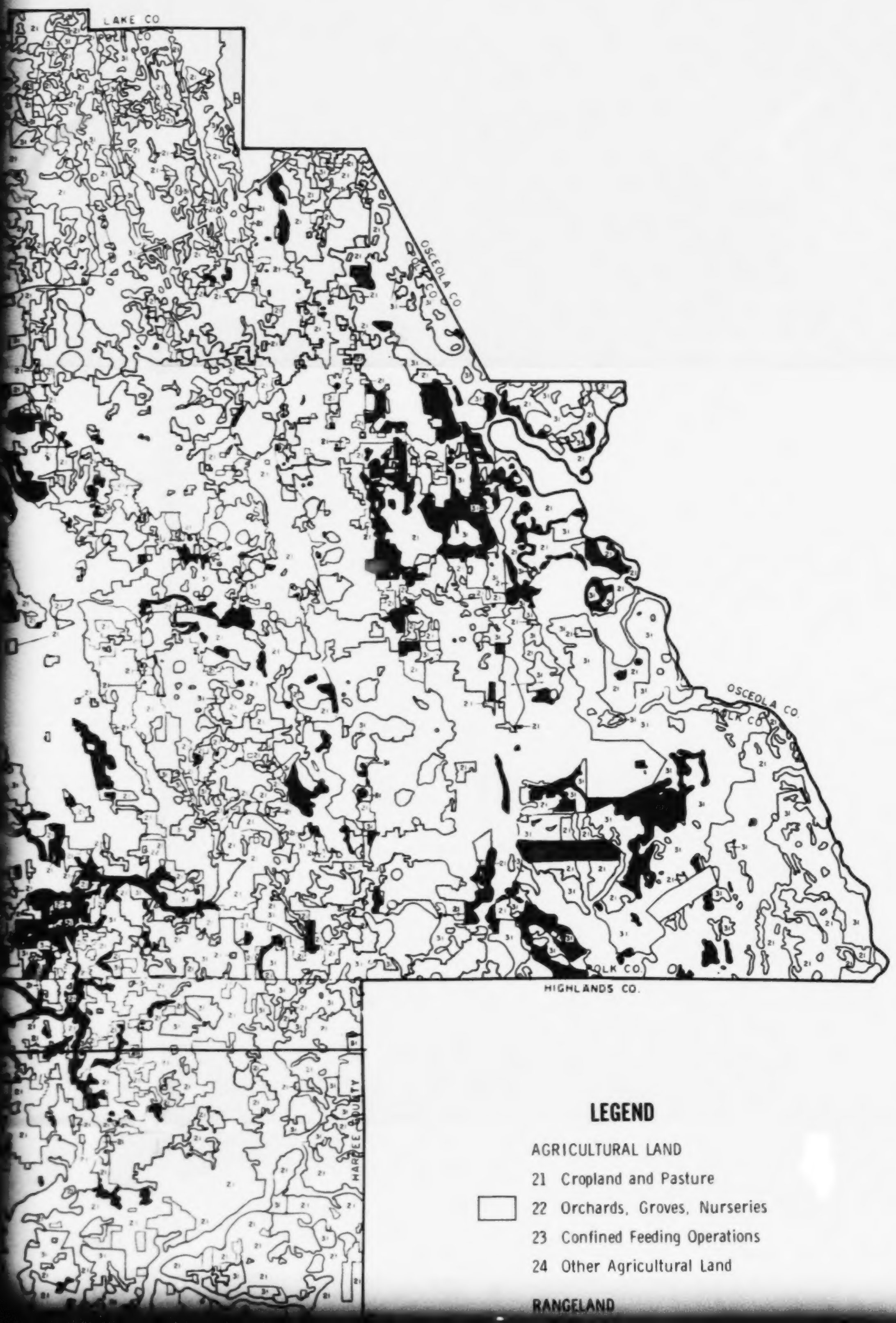
21 Cropland and Pasture

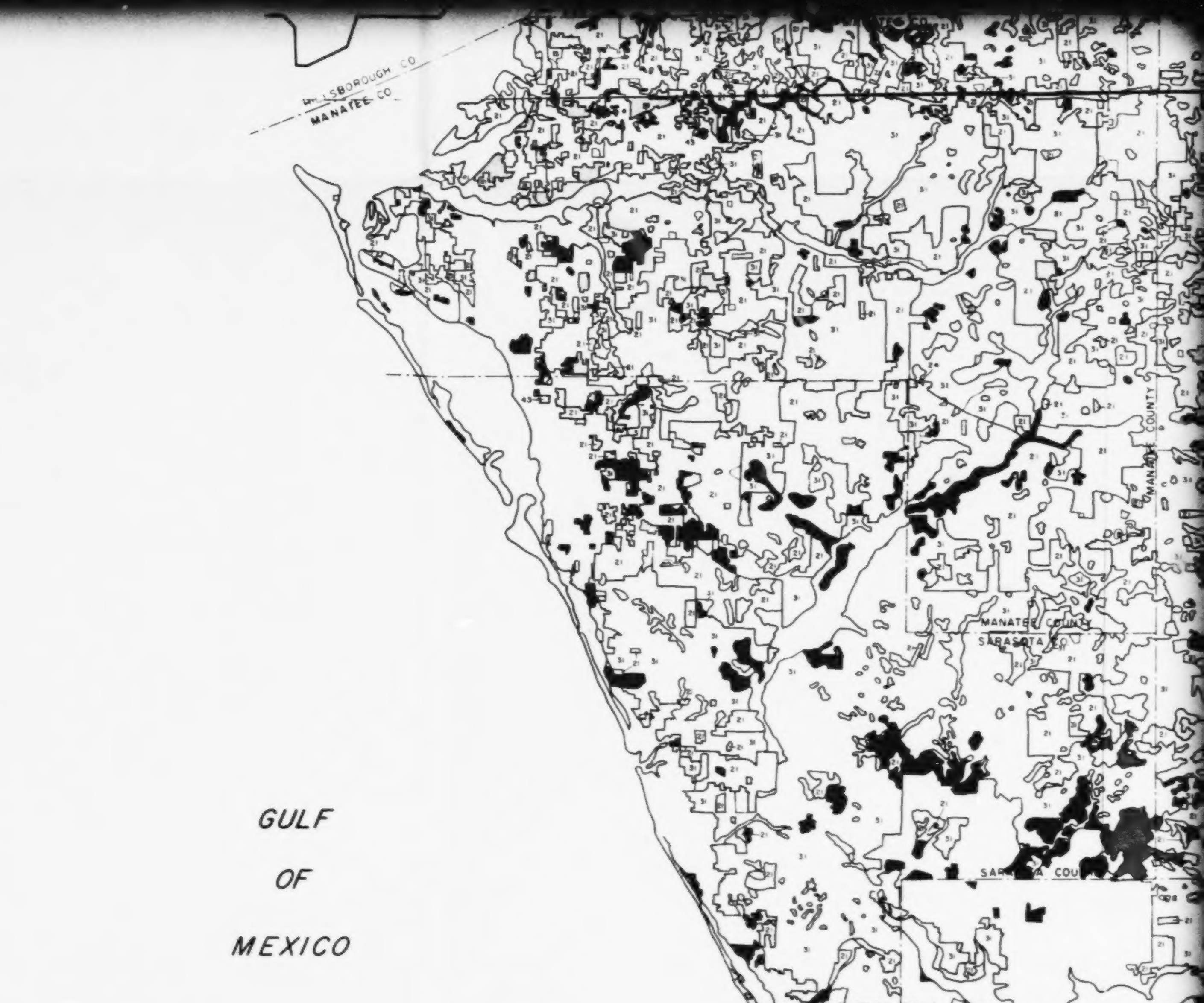
☐ 22 Orchards, Groves, Nurseries

23 Confined Feeding Operations

24 Other Agricultural Land

C


LAKE CO
OSCEOLA CO
OSCEOLA CO.
POLK CO
POLK CO.
HIGHLANDS CO.
HARDEE COUNTY
LEGEND
AGRICULTURAL LAND
21 Cropland and Pasture
☐ 22 Orchards, Groves, Nurseries
23 Confined Feeding Operations
24 Other Agricultural Land
RANGELAND


HILLSBOROUGH CO
MANATEE CO
GULF OF MEXICO
MANATEE COUNTY
MANATEE COUNTY
SARASOTA CO
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31
43
SCALE
5 0 5 10 15 20 Statute Miles
5 0 5 10 15 20 25 30 Kilometers
5 0 5 10 15 Nautical Miles
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LOCATION OF STUDY AREA WITHIN FLORIDA

Source: USGS Land Use-Land Cover Maps for Fla.: Plant City (1972), Orlando (1972), Tampa (1972), West Palm Beach (1973), and Ft. Pierce (1972)

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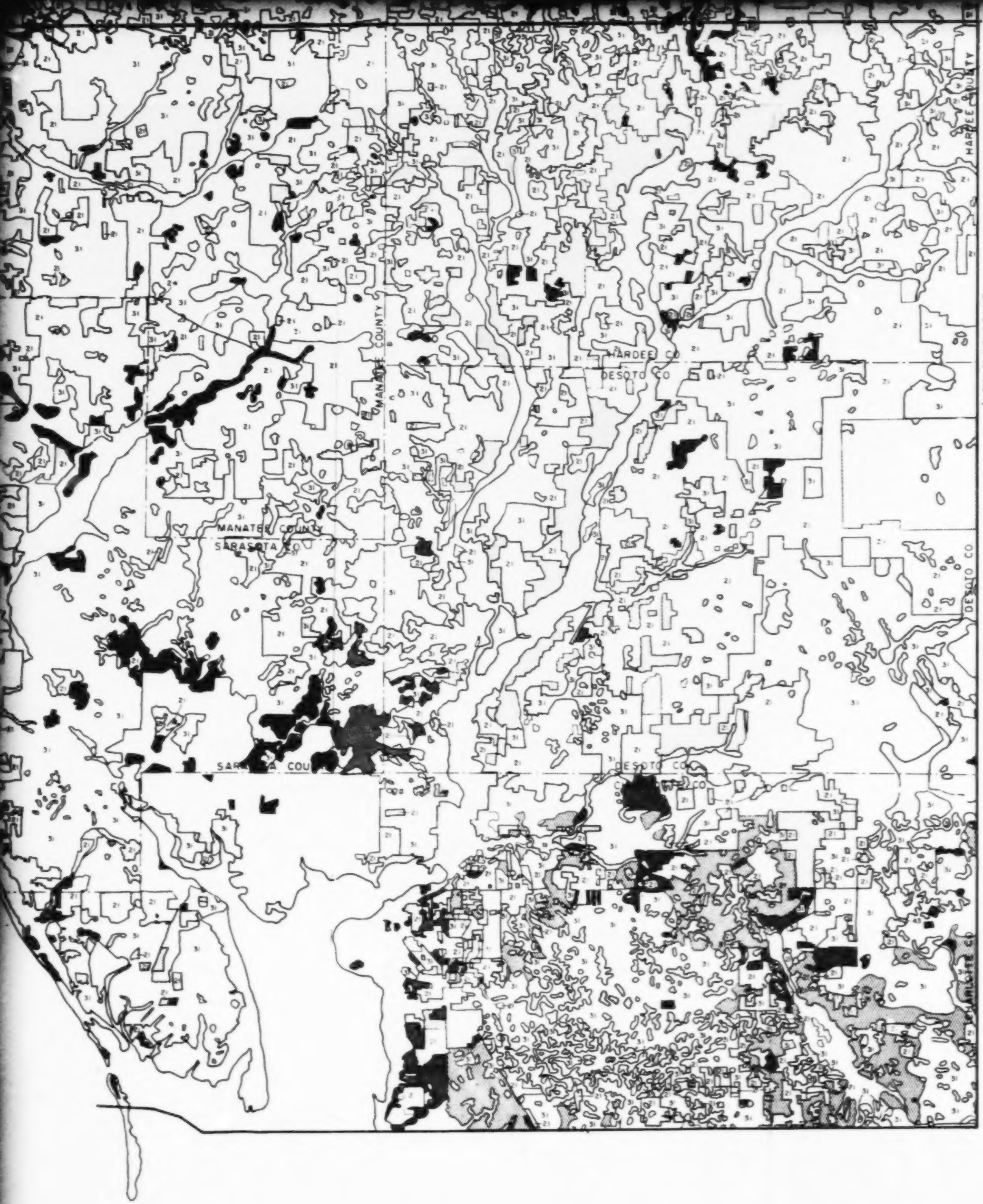
HARDEE COUNTY
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SARASOTA CO
DESOTO CO
SARASOTA COUNTY
DESOTO CO
CHARLOTTE CO
CHARLOTTE CO
21
31

LEGEN

AGRICULTURAL

21 Cropland an
☐ 22 Orchards, G
23 Confined Fe
24 Other Agricu

RANGELAND

31 Herbaceous
32 Shrub and
▨ 33 Mixed Range

FOREST LAND

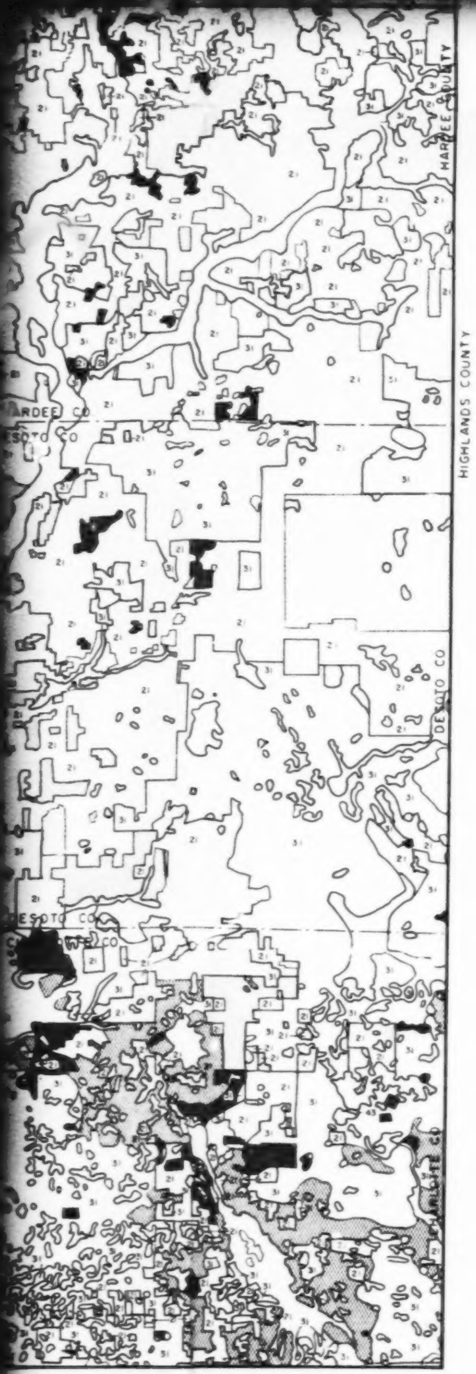
41 Deciduous F
■ 42 Evergreen F
43 Mixed Fores

CENTRAL F

CUR

E

E


HARDEE COUNTY
HIGHLANDS COUNTY
HARDEE CO
DESOTO CO
DESOTO CO
DESOTO CO
CHARLOTTE CO
CHARLOTTE CO

LEGEND

AGRICULTURAL LAND

21 Cropland and Pasture
☐ 22 Orchards, Groves, Nurseries
23 Confined Feeding Operations
24 Other Agricultural Land

RANGELAND

31 Herbaceous Rangeland
32 Shrub and Brush Rangeland
▨ 33 Mixed Rangeland

FOREST LAND

41 Deciduous Forest Land
■ 42 Evergreen Forest Land
43 Mixed Forest Land

CENTRAL FLORIDA PHOSPHATE EIS

PLATE 5

Volume III

CURRENT LAND USE I

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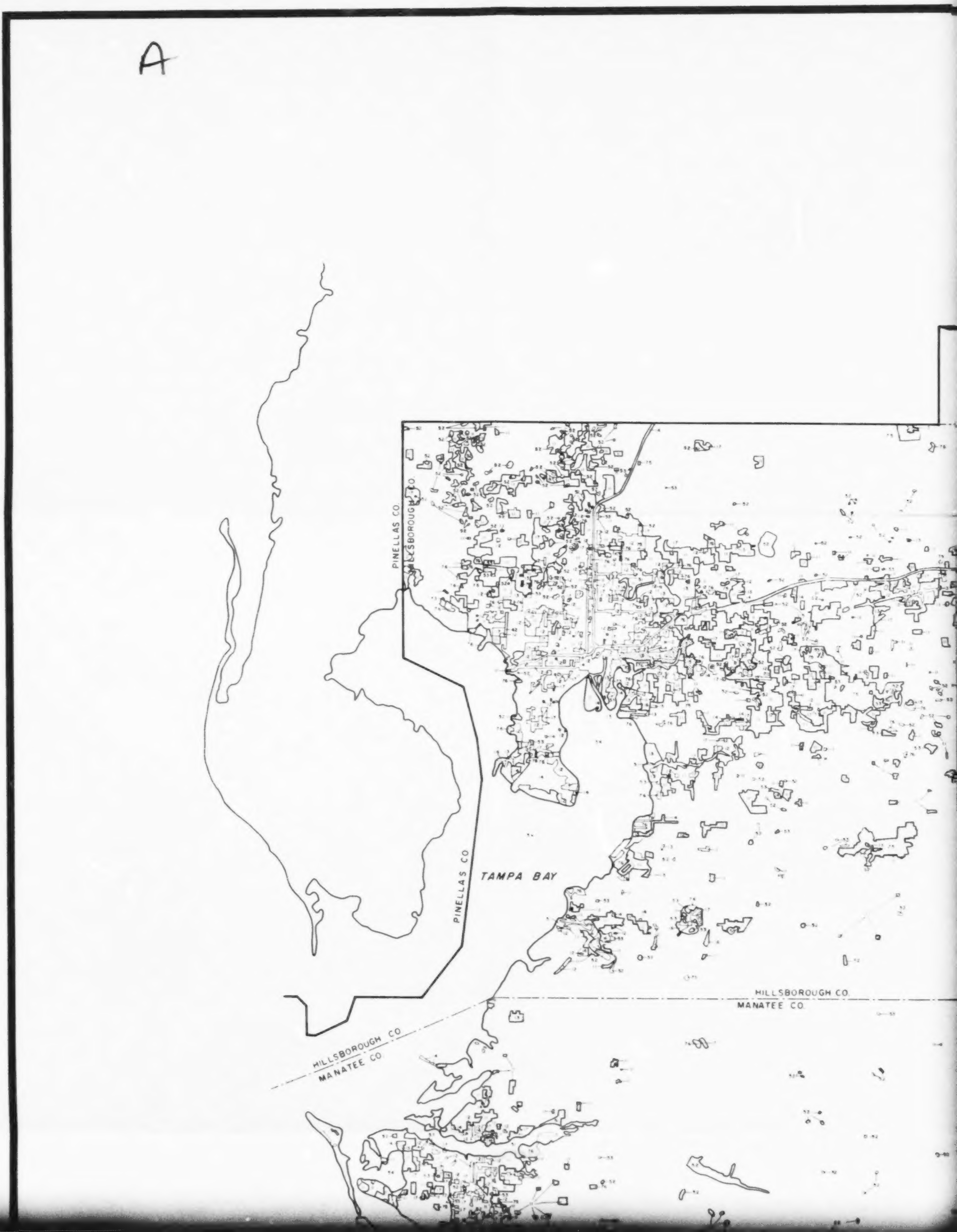
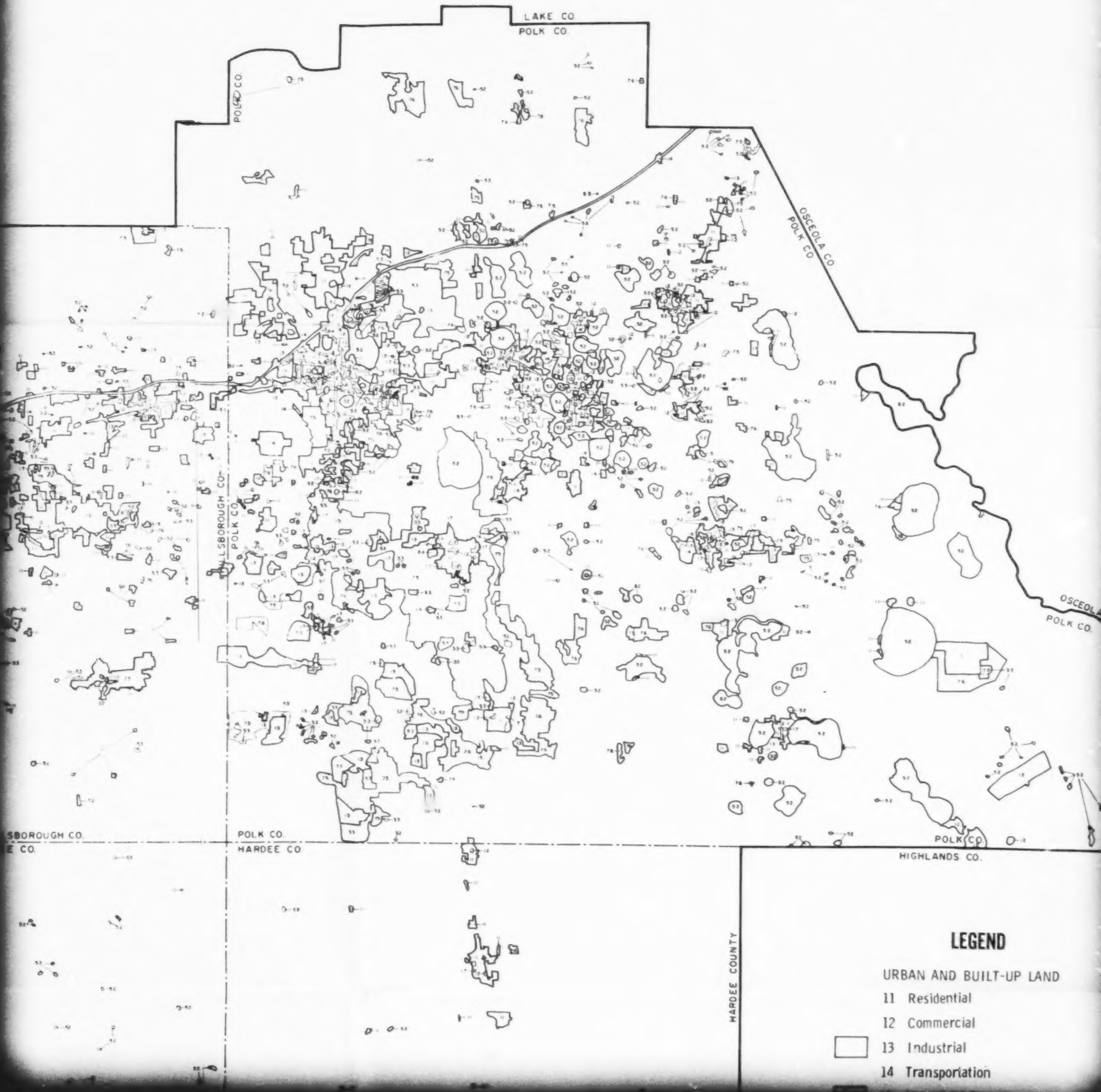

A
PINELLAS CO.
HILLSBOROUGH CO.
PINELLAS CO.
TAMPA BAY
HILLSBOROUGH CO.
MANATEE CO.
HILLSBOROUGH CO.
MANATEE CO.

13


LAKE CO.
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OSCEOLA CO.
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OSCEOLA
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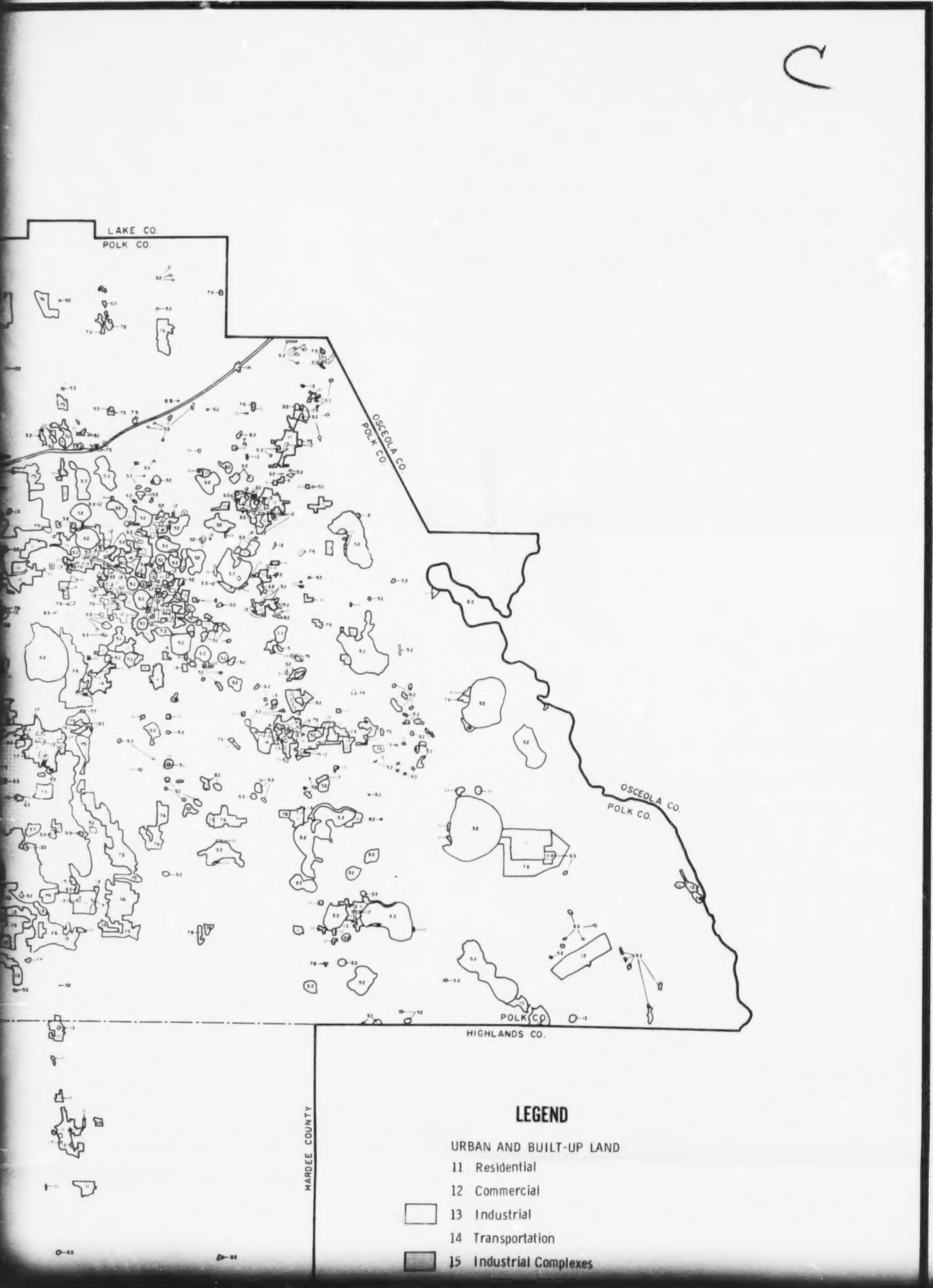
HILLSBOROUGH CO.
POLK CO.
HARDEE CO.
POLK CO.
HIGHLANDS CO.
HARDEE COUNTY
LEGEND
URBAN AND BUILT-UP LAND
11 Residential
12 Commercial
13 Industrial
14 Transportation

C


LAKE CO.
POLK CO.
OSCEOLA CO.
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OSCEOLA CO.
POLK CO.
POLK CO.
HIGHLANDS CO.
HARDEE COUNTY

LEGEND

URBAN AND BUILT-UP LAND

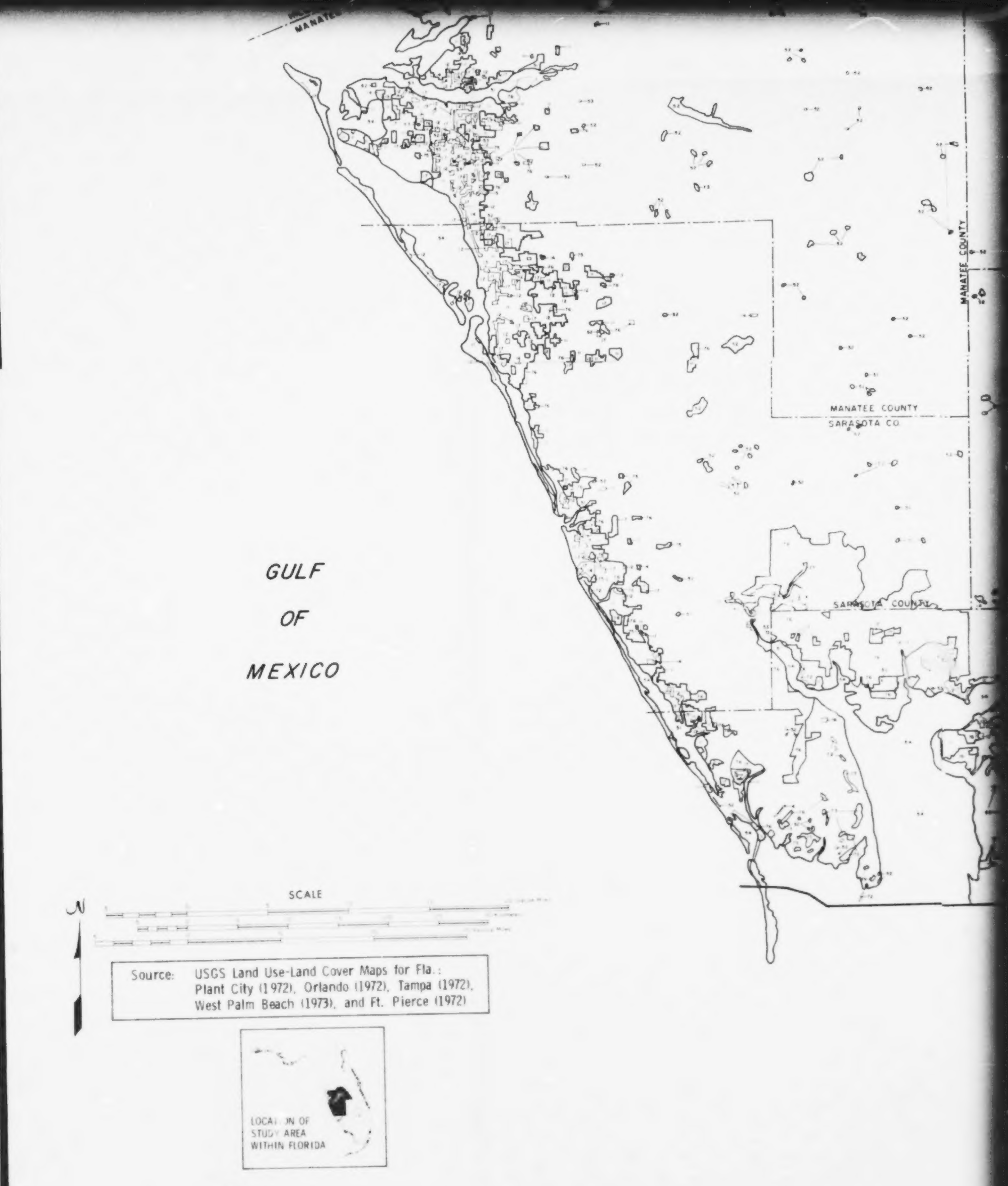
11 Residential

12 Commercial

☐ 13 Industrial

14 Transportation

▨ 15 **Industrial Complexes**


MANATEE
GULF
OF
MEXICO
MANATEE COUNTY
MANATEE COUNTY
SARASOTA CO.
SARASOTA COUNTY
SCALE
N
LOCATION OF
STUDY AREA
WITHIN FLORIDA

Source: USGS Land Use-Land Cover Maps for Fla.: Plant City (1972), Orlando (1972), Tampa (1972), West Palm Beach (1973), and Ft. Pierce (1972)

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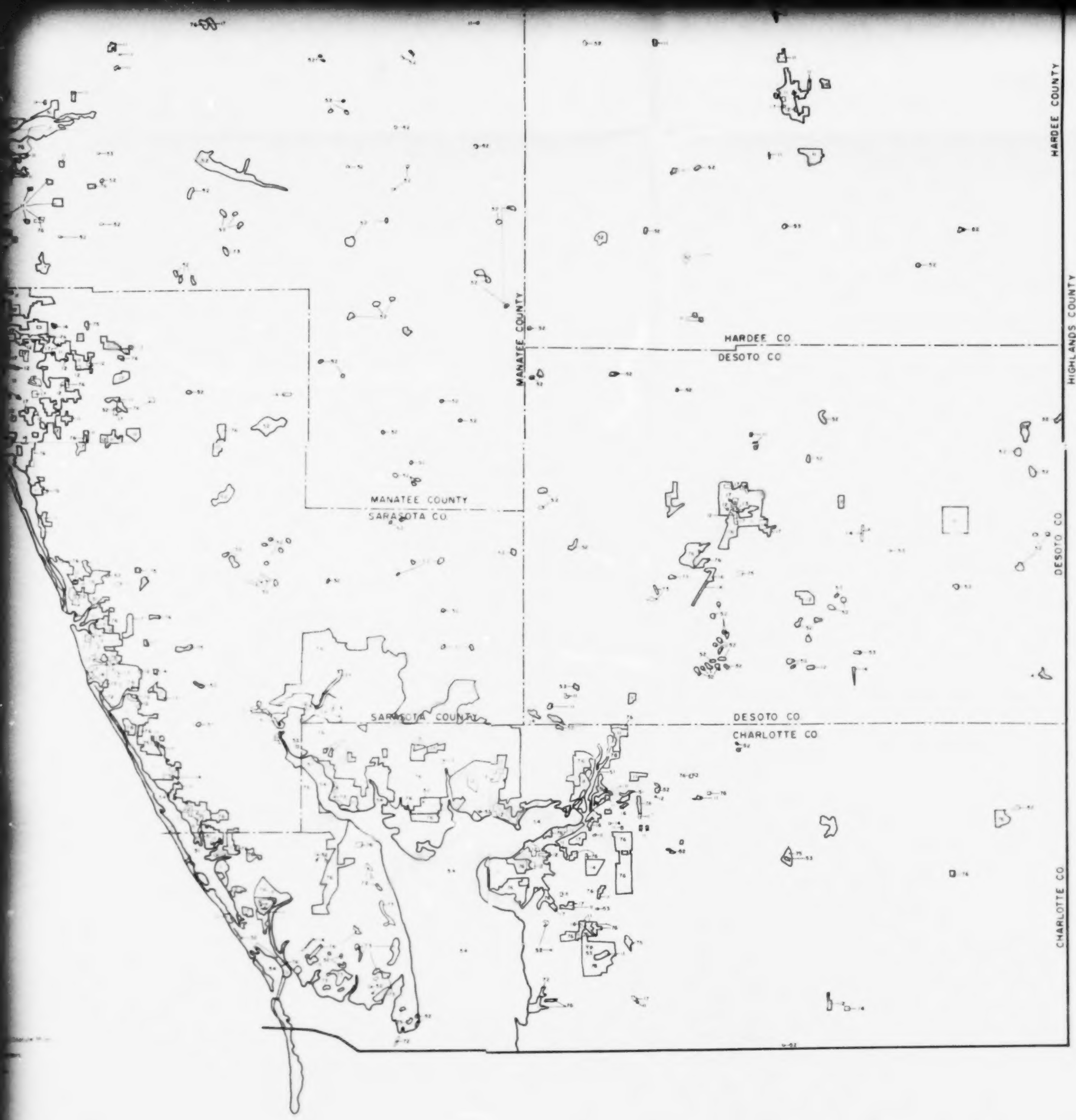
HARDEE COUNTY
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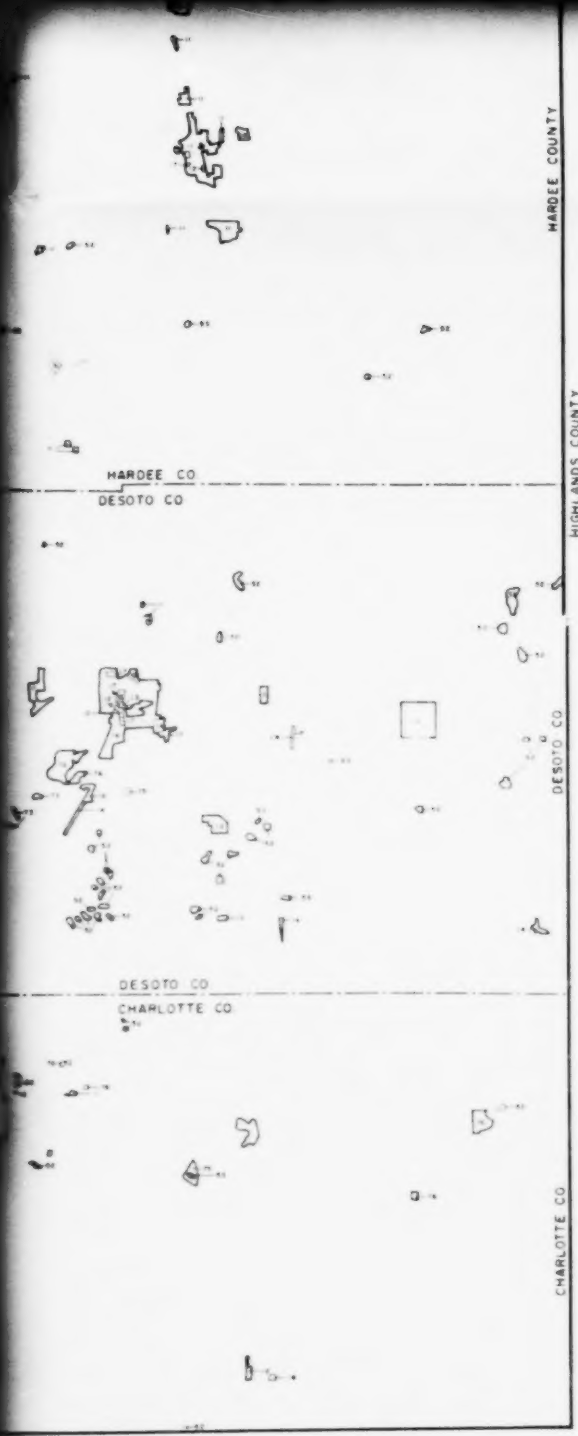
HARDEE COUNTY
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HARDEE CO
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CHARLOTTE CO
CHARLOTTE CO

LEGEND

URBAN AND BUILT-UP LAND

11 Residential
12 Commercial
☐ 13 Industrial
14 Transportation
▨ 15 Industrial Complexes
16 Mixed Urban
17 Other Urban

BARREN LAND

72 Beaches
73 Sandy Areas Other Than Beaches
☐ 75 Strip Mines
76 Transitional Areas

WATER

51 Streams and Canals
52 Lakes
53 Reservoirs
54 Bays and Estuaries

CENTRAL FLORIDA PHOSPHATE EiS

PLATE 6
Volume III

CURRENT LAND USE II

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TEXAS INSTRUMENTS
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EPA Contract Number 68-01-4196

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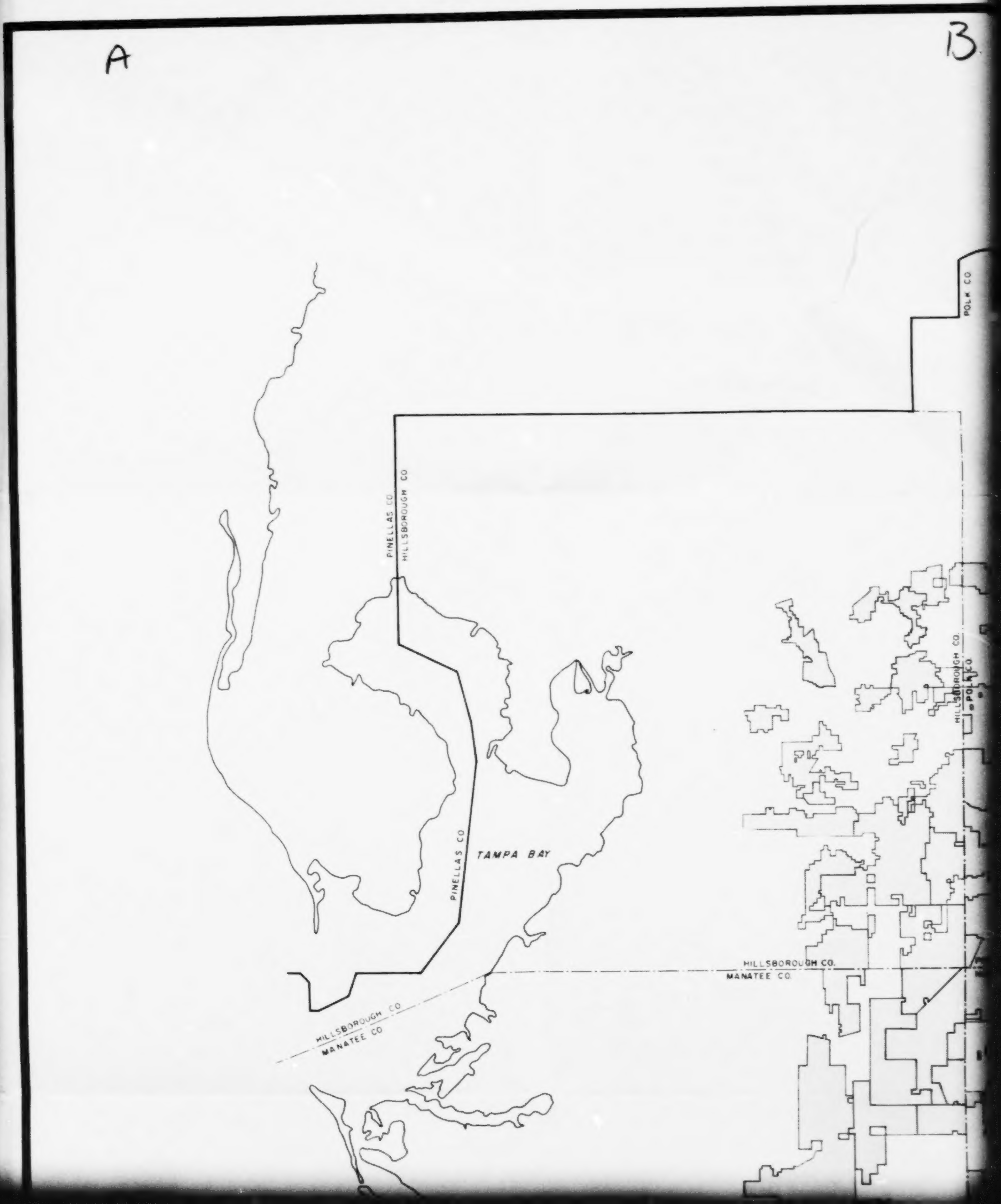
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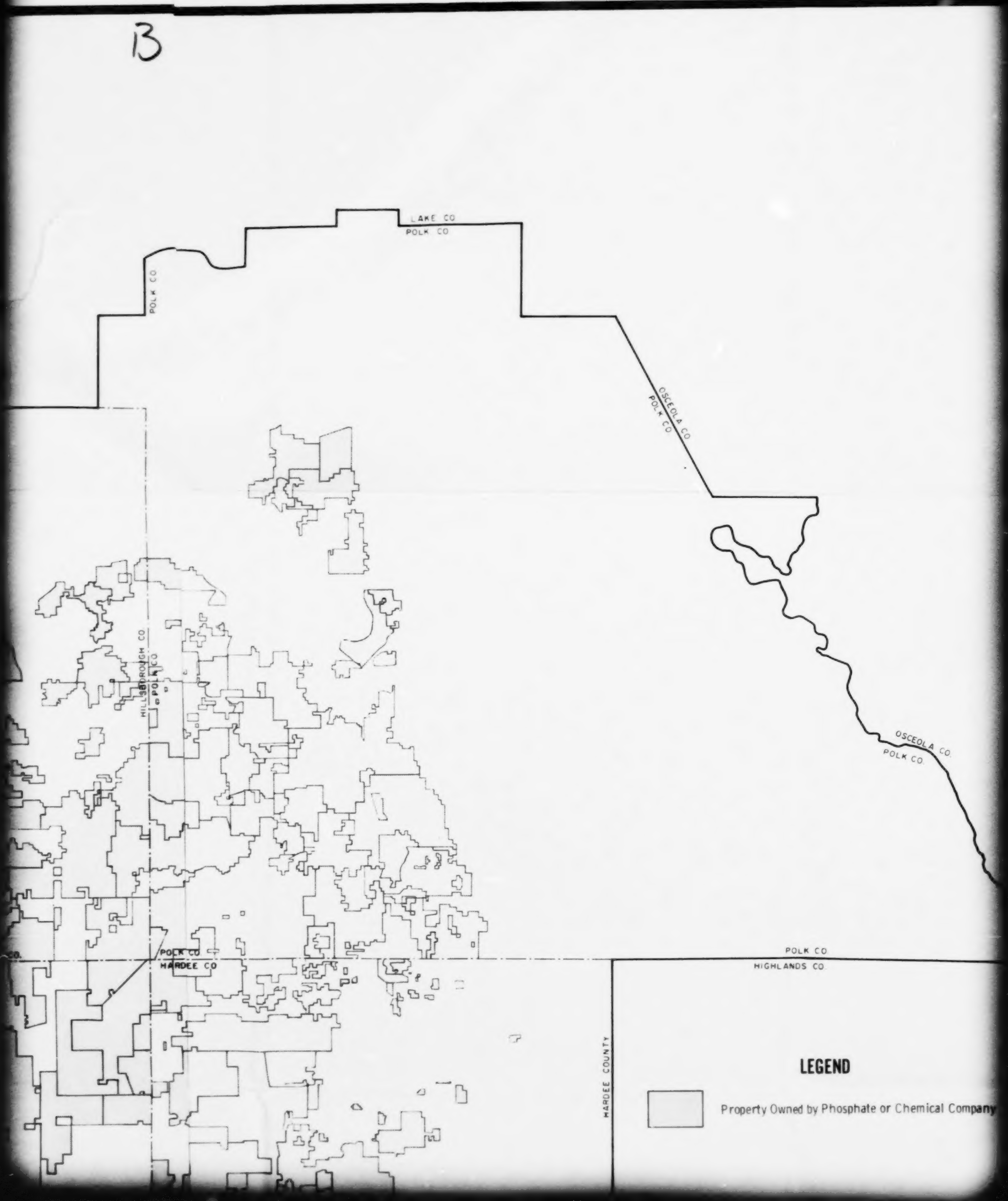
POLK CO
PINELLAS CO
HILLSBOROUGH CO
HILLSBOROUGH CO
POLK CO
PINELLAS CO
TAMPA BAY
HILLSBOROUGH CO.
MANATEE CO.
HILLSBOROUGH CO
MANATEE CO

B


LAKE CO
POLK CO
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OSCEOLA CO
POLK CO
HILLSBOROUGH CO
POLK CO
OSCEOLA CO
POLK CO
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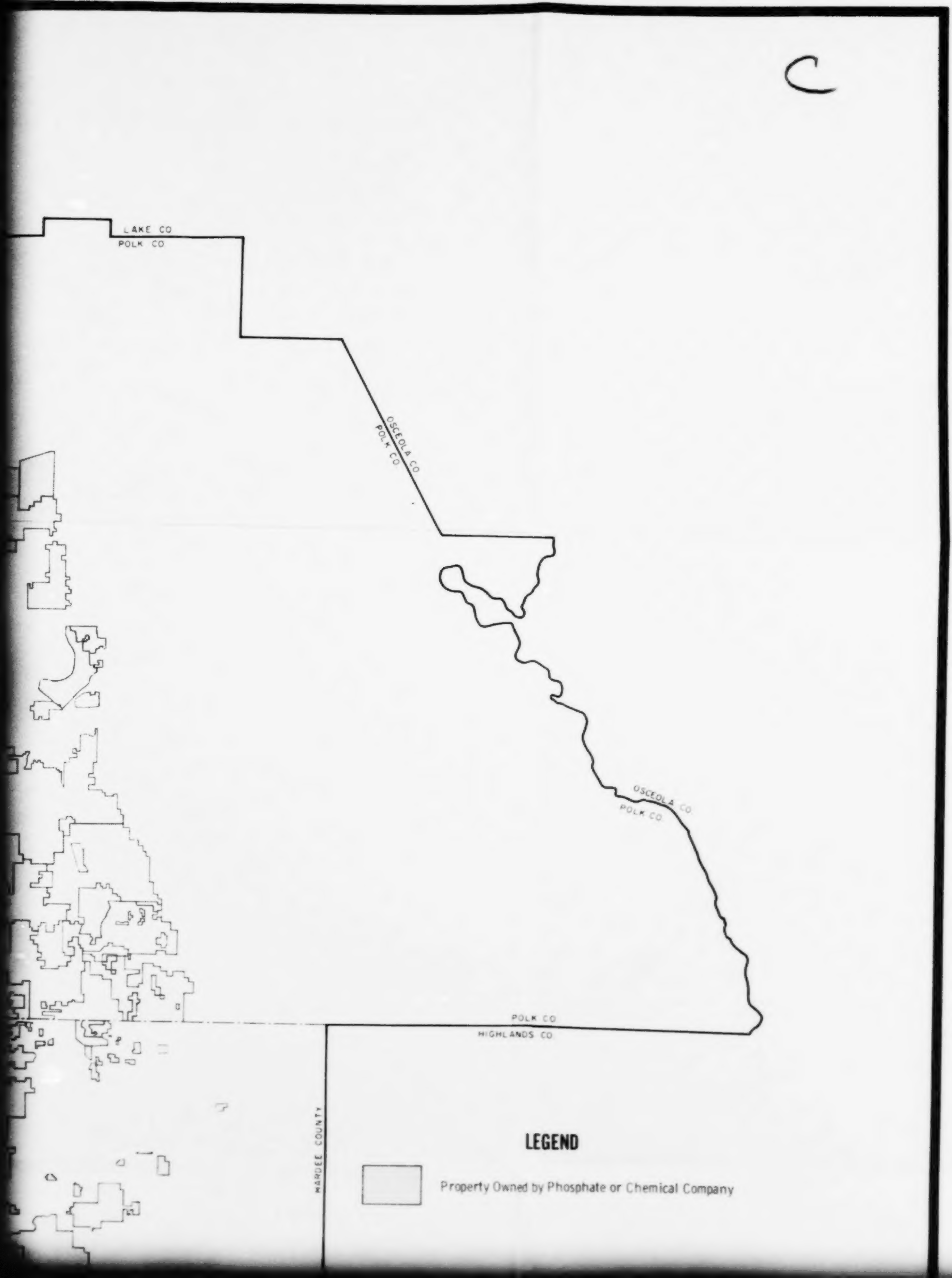
POLK CO
HARDEE CO
POLK CO
HIGHLANDS CO
HARDEE COUNTY
LEGEND
Property Owned by Phosphate or Chemical Company

C


LAKE CO
POLK CO
OSCEOLA CO
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OSCEOLA CO
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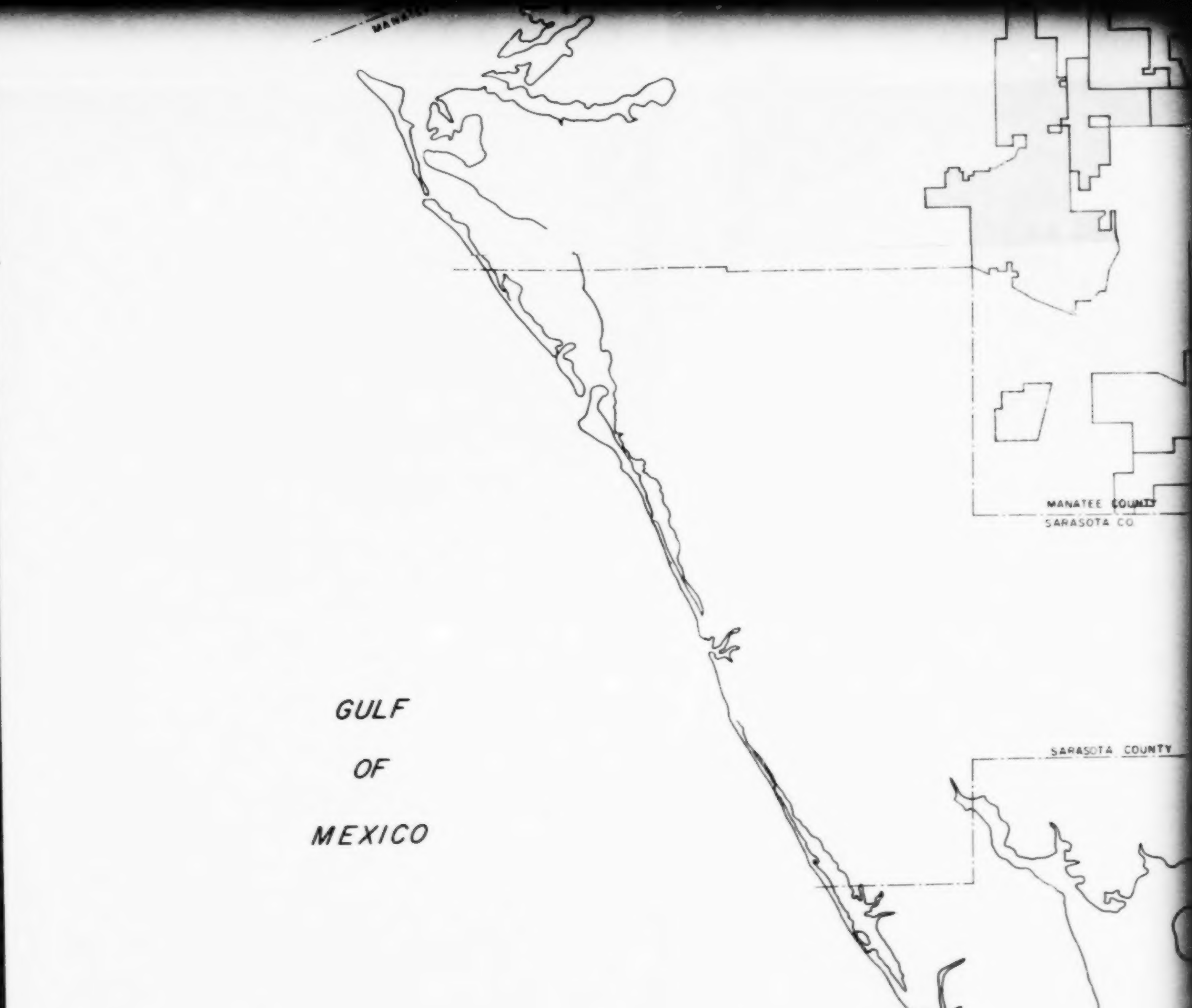
HIGHLANDS CO
HARDEE COUNTY

LEGEND

▨ Property Owned by Phosphate or Chemical Company


GULF
OF
MEXICO
MANATEE COUNTY
SARASOTA CO.
SARASOTA COUNTY
SCALE
N
LOCATION OF
STUDY AREA
WITHIN FLORIDA

Source: Southwest Florida Water Management District
October, 1975 (Updated 9/7/76)

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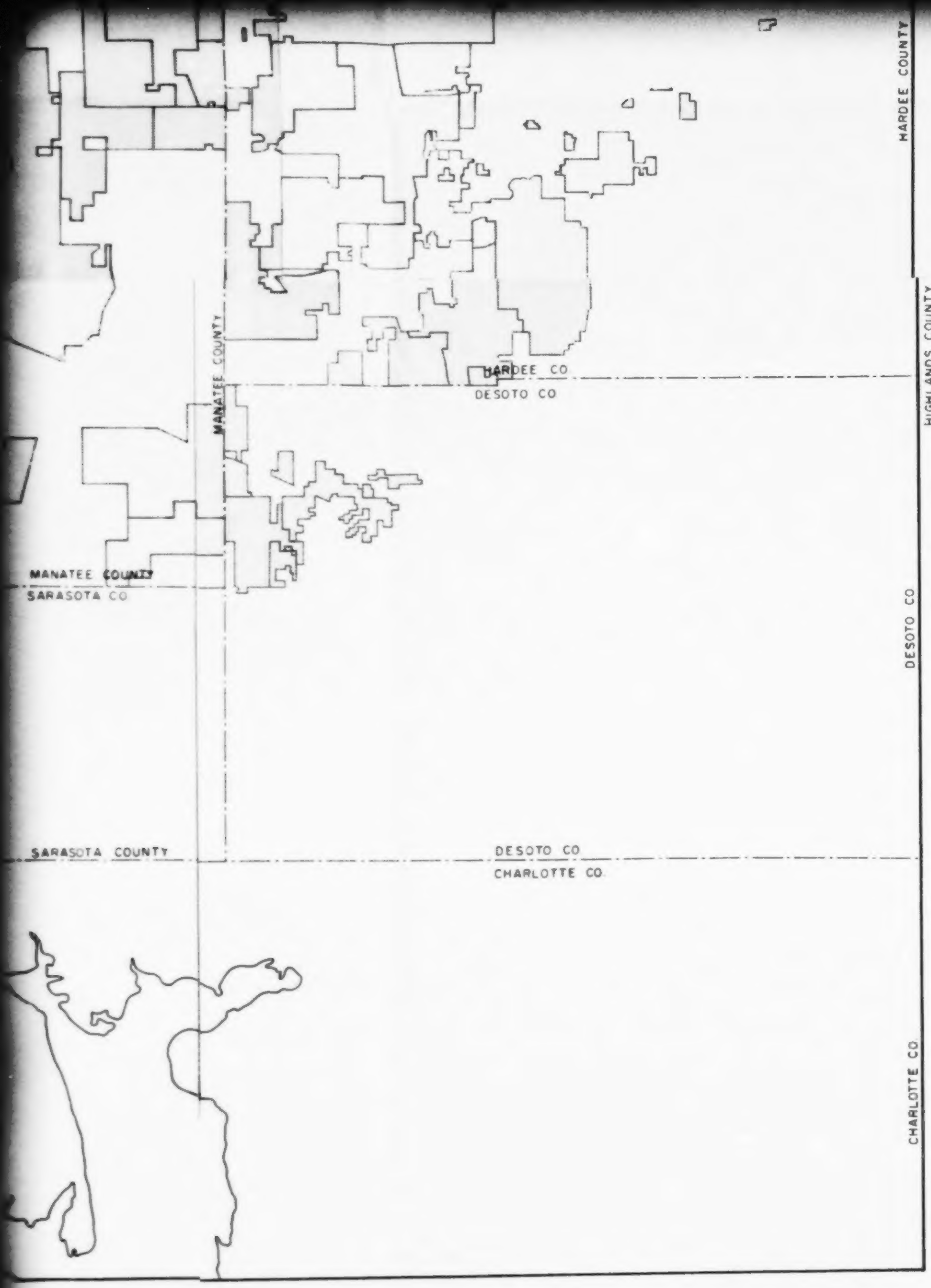
HARDEE COUNTY
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MANATEE COUNTY
SARASOTA CO
DESOTO CO
SARASOTA COUNTY
DESOTO CO
CHARLOTTE CO
CHARLOTTE CO

LEGEND

▨ Property Owned by Phosphate or Chemical Company

CENTRAL FLORIDA PHOS

PLATE 7 Volume III

PHOSPHATE COMPA
LAND OWNERSH

Prepared by

TEXAS INSTRUMENTS
INCORPORATED

EPA Contract Number 68-01-4

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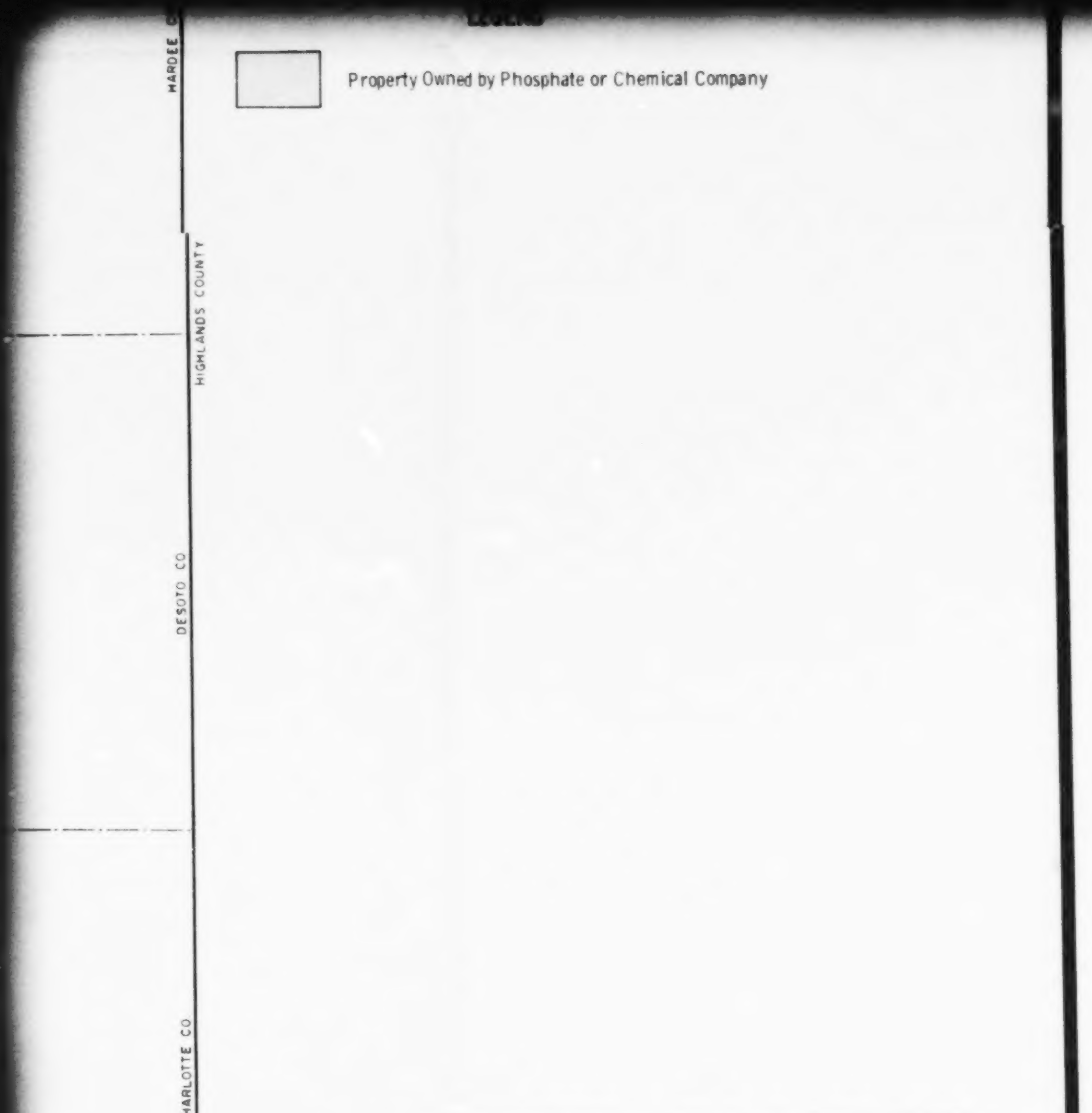
LEGEND
▢ Property Owned by Phosphate or Chemical Company
HARDEE CO
HIGHLANDS COUNTY
DESOTO CO
CHARLOTTE CO

CENTRAL FLORIDA PHOSPHATE EIS

PLATE 7 Volume III

PHOSPHATE COMPANIES' LAND OWNERSHIP

Prepared by

TEXAS INSTRUMENTS

EPA Contract Number 68-01-4196

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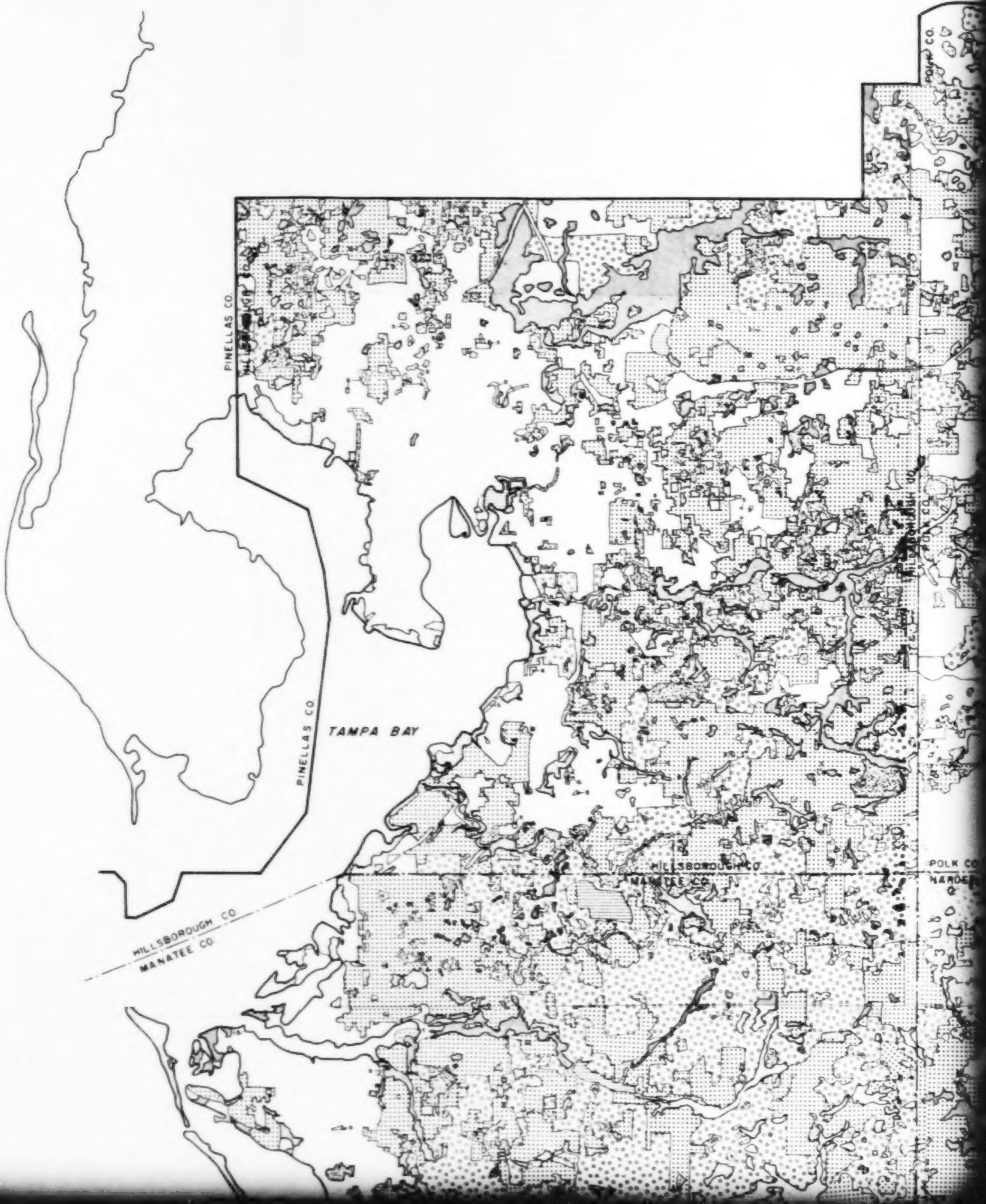
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HARDEE

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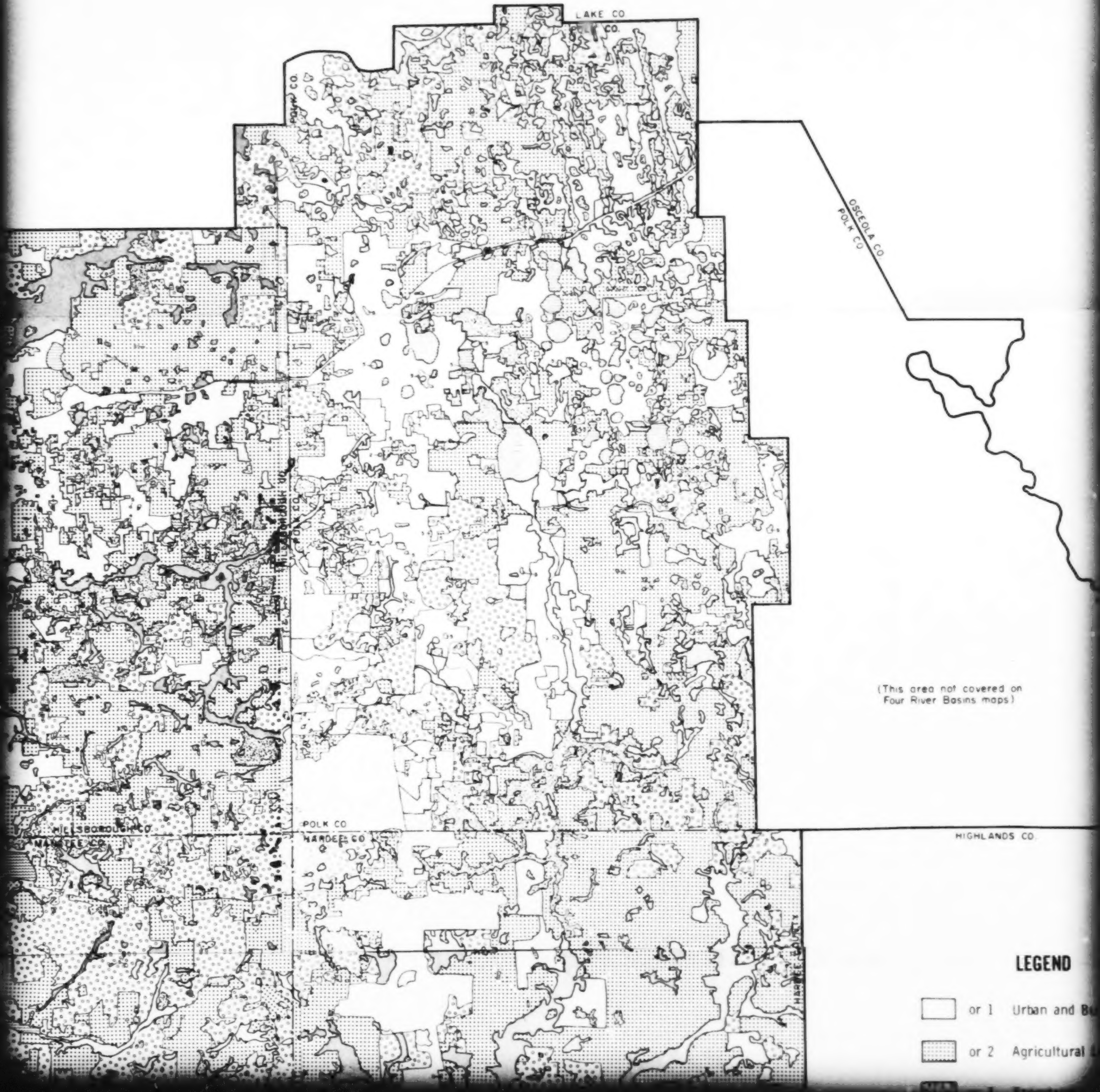
LAKE CO
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OSCEOLA CO
POLK CO
HILLSBOROUGH CO
POLK CO
MANATEE CO
HARDEE CO
HIGHLANDS CO
HARDEE COUNTY
(This area not covered on Four River Basins maps)
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or 1 Urban and Bu
or 2 Agricultural L

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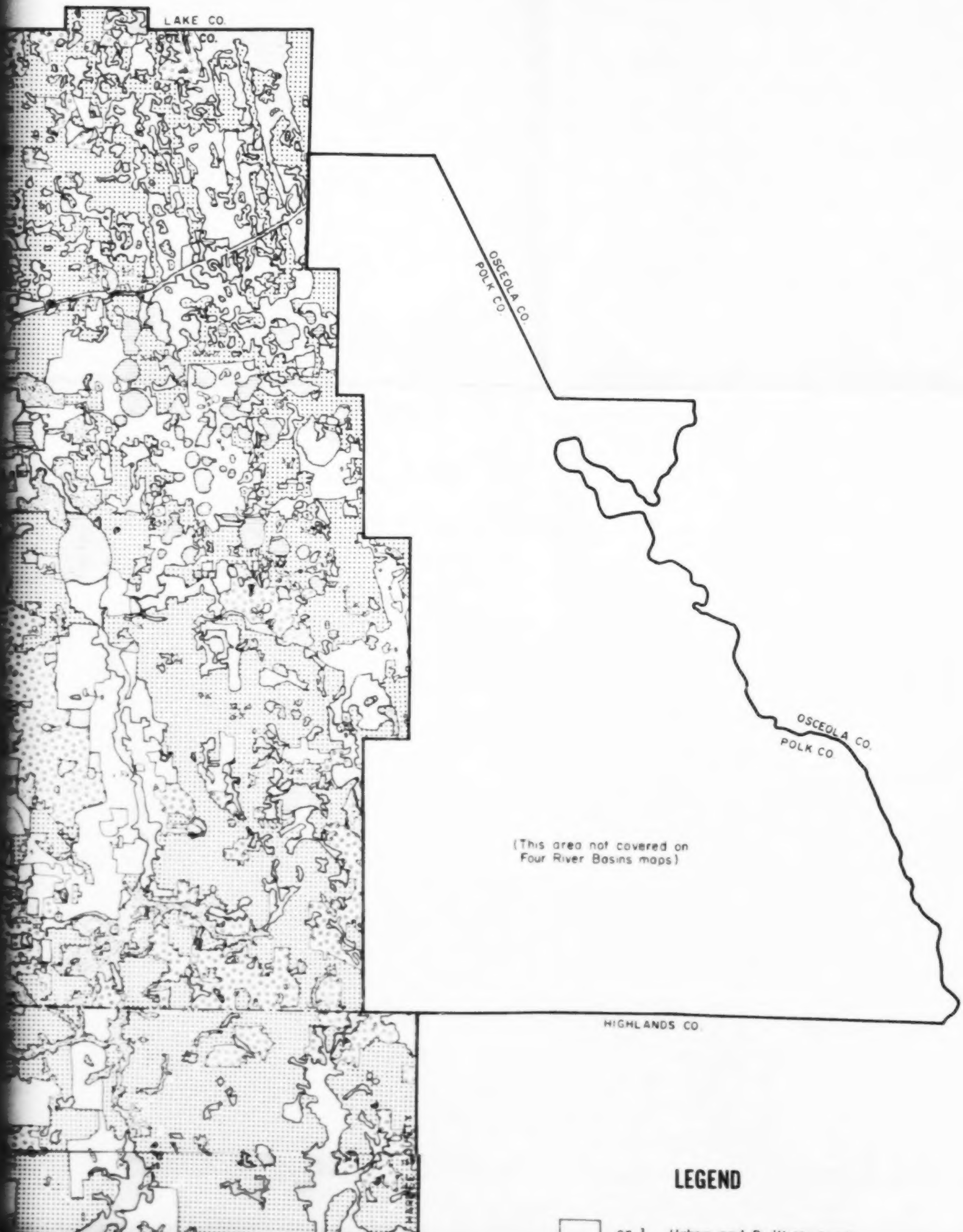
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POLK CO.
OSCEOLA CO.
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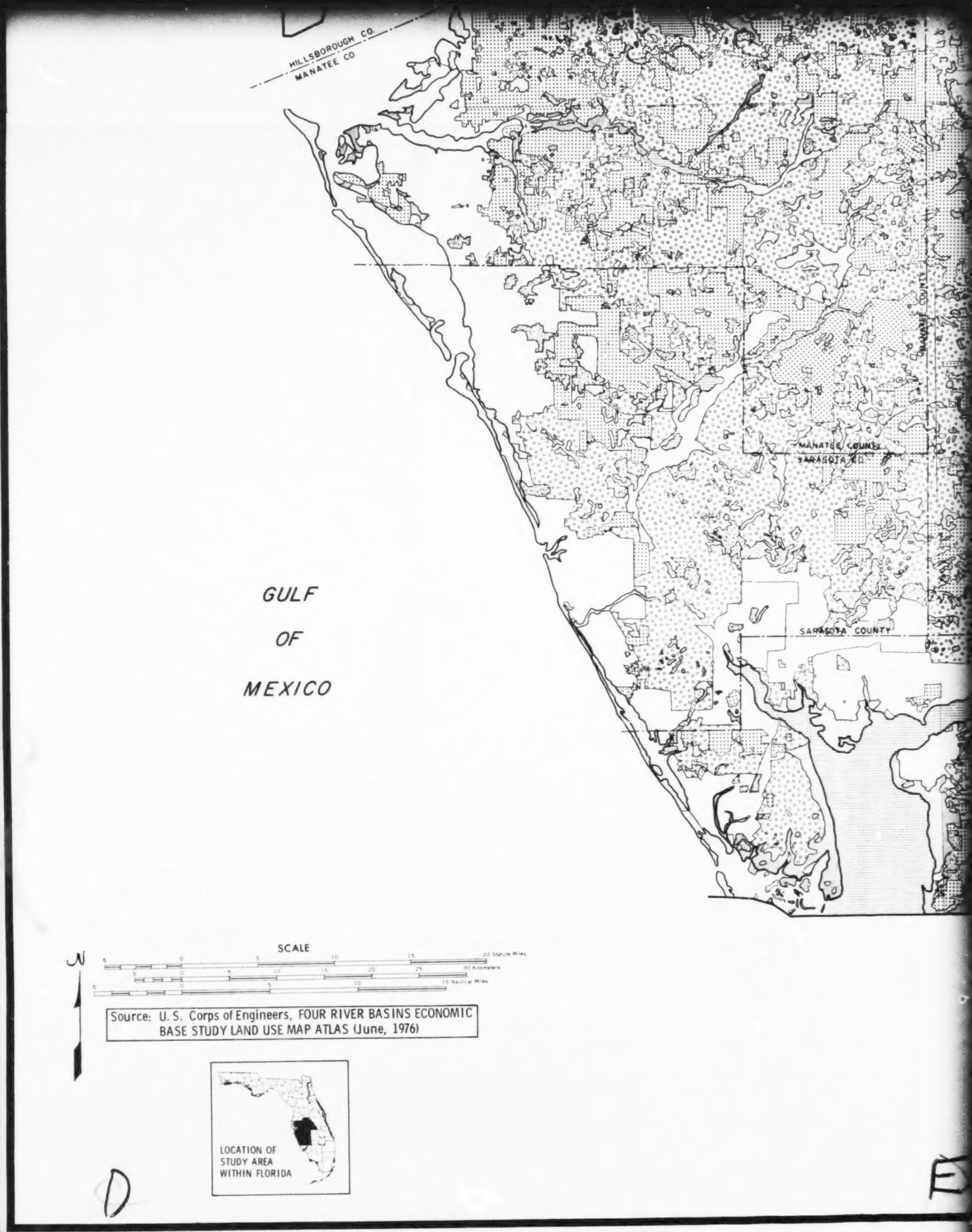
OSCEOLA CO.
POLK CO.
(This area not covered on Four River Basins maps)
HIGHLANDS CO.
HARDEE COUNTY

LEGEND

☐ or 1 Urban and Built-Up Land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MANATEE CO.
GULF
OF
MEXICO
MANATEE COUNTY
MANATEE COUNTY
SARASOTA CO.
SARASOTA COUNTY
SCALE
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LOCATION OF
STUDY AREA
WITHIN FLORIDA
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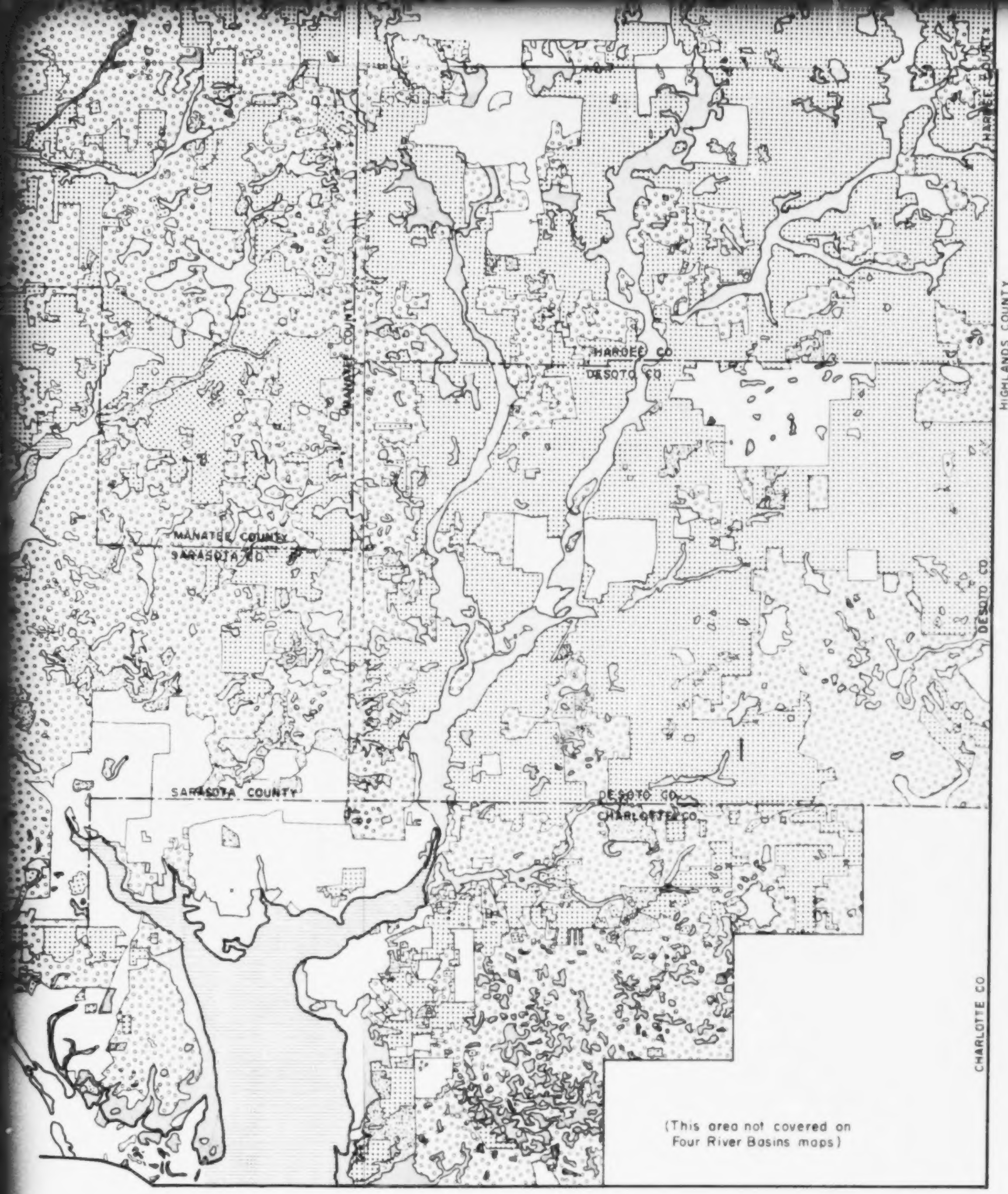
Source: U. S. Corps of Engineers, FOUR RIVER BASINS ECONOMIC BASE STUDY LAND USE MAP ATLAS (June, 1976)


HARDEE COUNTY
HIGHLANDS COUNTY
MANATEE COUNTY
HARDEE CO
DESOTO CO
MANATEE COUNTY
SARASOTA CO
DESOTO CO
SARASOTA COUNTY
DESOTO CO
CHARLOTTE CO
CHARLOTTE CO
(This area not covered on Four River Basins maps)

LEGEND

☐ or 1 Urban and Buil
▨ or 2 Agricultural La
▨ or 3 Rangeland
▨ or 4 Forest Land
▨ or 5 Water
☐ or 6 Wetland
☐ or 7 Barren Land

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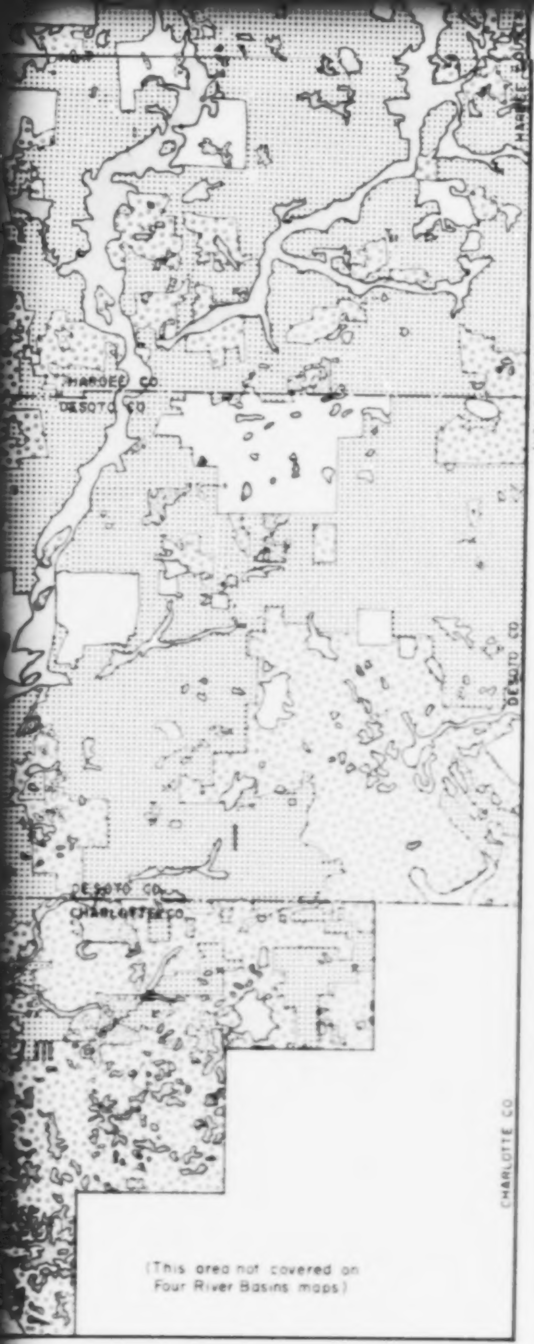
HARDEE COUNTY
HIGHLANDS COUNTY
HARDEE CO
DESOTO CO
DESOTO CO
DESOTO CO
CHARLOTTE CO
CHARLOTTE CO
(This area not covered on Four River Basins maps)

LEGEND

☐ or 1 Urban and Built-Up Land
▦ or 2 Agricultural Land
▨ or 3 Rangeland
▩ or 4 Forest Land
▤ or 5 Water
☐ or 6 Wetland
☐ or 7 Barren Land

CENTRAL FLORIDA PHOSPHATE EIS

PLATE 8

Volume III

LAND USE 2000

Prepared by

TEXAS INSTRUMENTS
INCORPORATED

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